Harveian Oration.

HARVEY AND HIS SUCCESSORS.

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MR. PRESIDENT AND GENTLEMEN,—Within a few days of Shakespeare's death, William Harvey, physician to St. Bartholomew's Hospital, opened his course of lectures as Professor of Anatomy and Surgery at this College. The rough notes used by him in these lectures were published a few years ago by the College in facsimile, and few documents of greater importance for the history of European science have been given to the world in the present century. For not merely do we find in it clear proof of the completeness of Harvey's great discovery twelve years before the accepted date of its publication, but it opens a window through which we may watch the workings of a powerful and most original mind, and appreciate the breadth with which at a most critical period of scientific history he handled the problems of life. In appreciating the life of a great man, as in that of the humblest protozoon, we have to bear in mind the essential fact of life first propounded by Comte and subsequently illustrated with such fulness by Herbert Spencer, that it is a mutual action, ever tending to adjustment, between organism and environment. The environment of higher organisms, no longer limited to the contact of surrounding particles, embraces all the social and intellectual influences to which a highly organised brain may be sensitive. Estimated in this sense what was the environment of Harvey? He was born at the greatest period of English history, not that of her world-wide empire, of her enormous wealth, of her crowded population, but the period in which she gave birth to her greatest men. Within the compass of Harvey's life there lived on this island Shakespeare, Spenser and the galaxy of Elizabethan dramatists, followed by the great epic poet, who was in his prime when Harvey died. In philosophy there were Bacon, Hobbes, Locke. In science there were Napier and Briggs, the inventors of logarithms; Hariot, the forerunner of the mathematical revolution of Descartes; Wallis, the algebraical precursor of Newton; Gilbert, the founder of electrical science; and that most fertile and ingenious of physicists, Robert Boyle. If statesmanship were in question, it would be sufficient to name Elizabeth and Cromwell.

Passing from England to the Continent we may say that Harvey was born into the full splendour of this philosophical and scientific Renascence. In art the Renascence had set in a century before, under Ariosto, Raphael, Da Vinci and others. The awakening of science was not slow to follow. Thirty years before Harvey's birth the "Revolutions of Celestial Bodies" had been published in the last month of its author's life. The work of Copernicus was carried on during Harvey's youth by Tycho Brahe and Kepler. The cometary genius of Bruno was flashing through the universities of Europe, preaching the gospel of the new astronomy; and with a yet greater man than these the young Harvey was brought into near contact. In 1597 Harvey took his degree at Cambridge, at that time a school of no great importance; in the following year he went to Padua, and studied under one of the greatest among the many great anatomists of that century and country, Fabricius of Acquapendente. Six years before this time a young man had been appointed to the professorship of mathematics in that university who was to open a new epoch in European thought. Galileo Galilei had already made his mark in his native city of Pisa. He had studied medicine under Cesalpino, chafing no doubt under his interminable pedantries. He had made his brilliant discovery of the equality of time in the oscillations of the pendulum, and had applied that discovery, by a pendulum of suitable length, to the study of the speed and regularity of the pulse; the first instrument perhaps ever constructed for the precise observation of phenomena in a living organism. He had already done fierce battle with the powers of darkness in attacking the petrified philosophy that was called Aristotelian, and in laying the foundation of the true science of motion. The mathematics in which he was interested were applied mathematics; the interpretation and measurement of physical forces. From the beginning to the end of his life his unfailing conviction was that the phenomena of motion and energy which constituted the world were calculable quantities. The very use of the word "mechanics," to denote the abstract sciences of static and dynamic, dates from his treatise, published in 1593, on the Utility of the Scientific Study of Machines. In this work the great modern conception of the conservation of energy is, I believe for the first time, traceable in his discussion of the paradox that the smaller weight on the longer arm of the lever balanced the heavier weight on the shorter one. "Philosophy," he said, "is written in the great book of the universe, which lies always open, but we must first understand the language and the character in which it is written; that language is mathematics. Without it we cannot understand the words, and wander through a dark labyrinth without a clue." His lecture-hall in Padua held 2000 students, and was crowded with strangers from every part of Europe. He had the art of forming a school and of attracting young men round him. Torricelli, the first measurer of atmospheric pressure, was one of his pupils. The thermometer, first invented by Galileo himself in an imperfect form, was completed by another pupil shortly afterwards. Of the telescope I need not speak; and again it must be repeated that Galileo took the first step to that all-important condition of science—the precise measurement of time. In a word, the science of physics was founded by Galileo. Of personal intercourse between Galileo and Harvey we have no record, but that the influence of his mighty genius is to be taken into account as one of the incident forces which moulded his mind there can be no doubt whatever. He came back from Padua with the sense that nature was not merely to be observed, but measured. He had imbibed elementary truths as to motion and energy which stood him in good stead when he began himself to think on the mechanism of the human body.

Let us briefly review the condition of biological science at the close of the sixteenth century. It may be summed up in one sentence—an advanced state of descriptive anatomy; hopeless confusion as to the functions of the organs described. The debt we owe to the descriptive anatomists of the sixteenth century has perhaps never been adequately recognised, though Vesalius, Eustachius, Fallopius and others have left their names inscribed on various structures of the human body. They were the worthy successors of Galen, whose works are themselves a cyclopædia of the anatomical and medical knowledge gained in the schools of Alexandria, enlarged by his own observations and experiments. In the schools of Padua, Bologna and Pisa every part of the body was dissected and scrutinised as minutely as was possible before the invention of the microscope, and none more minutely than the heart. With regard to the functions of these organs, the confusion of men's minds was complete and seemingly hopeless. Physiological science was far below the level at which Galen had left it. He was a strictly scientific observer and thinker, inheriting the results of six centuries of Greek inquiry, from Hippocrates onwards, and pushing them forward with marvellous zeal. In the thirteenth century the great schoolmen—notably, Albertus Magnus and Roger Bacon—had shown themselves his worthy successors. They brought Aristotle's scientific researches into prominence, and held them up as models for imitation. Afterwards came a time of stagnation and retrogression. For several generations the professorial chairs of Europe were filled by men who worshipped Aristotle not as a keen observer of nature and a progressive thinker, but as an inspired prophet who saved them the trouble of thinking. Even their Greek science they read backwards. If Galen in the second century A.D. differed from Aristotle in the fourth century B.C., so much the worse for Galen. Thus, for instance, we find the man who is sometimes held up to us as the true discoverer of the circulation—Cesalpino of Pisa—rejecting Galen's admirable investigations into the nervous system, and reverting to the curious doctrine of Aristotle, that the brain was a refrigerator of the blood which had been raised to boiling point in the heart. Similarly on respiration, where Galen's views, though very imperfect, were far less wide of the mark than Aristotle's, Cesalpino had no hesitation in following Aristotle rather than Galen. Pedantry, obscurantism, indolence account for much of this, but not for the whole. The doctrines of the Church had become inseparably intertwined

with Aristotelian metaphysic and logic. To assault Aristotle was to proclaim yourself a heretic.

Now, by Aristotle and all his successors the heart was regarded as a furnace, or at least a reservoir of heat, by the agency of which animal heat was maintained and the food was concocted. It was regarded also by Aristotle, though not by Galen, as the *sensorium commune;* it was the first organ that arose in the embryo, it was the last to die; it supplied the tissues with that which made them sensitive. In the fifth of the Peripatetic Discussions of Cesalpino we have the following thesis maintained. The soul is not made up of separate parts, each residing in a separate organ; nor does the whole soul reside in the whole body, but the whole soul resides in the heart. He quotes with approbation the view of Aristotle that the animal is a commonwealth of organs, the soul being the ruler of that commonwealth. The heart is the soul's court; and as in a community all things are done by the soul's decree, though the king does not intervene in each detail, so do all organs live by virtue proceeding into them from the heart. For instance, in the function of respiration, the beginning of the series of actions concerned was the heart's heat. The blood boiling up in the heart not merely dilates the heart and so produces the pulse, but it dilates the lungs also by sending into them a continual stream of heated blood. The lungs being thus enlarged, it follows that external air streams in through the bronchi, and this we call inspiration. Thence results a cooling of the blood and a diminution of its bulk, as when drops of cold water fall on boiling oil. The lungs collapse and air is given out. This we call expiration. The heart's heat is thus the initial force in respiration. The whole of this alchemistic apparatus set up inside man's body, the heart boiling the blood to the point of evaporation, the subtler spirit thus produced condensed in the cooling chamber of the brain and issuing from it in the form of nerves, the lungs acting as an additional cooler, so that the part of the blood which remained liquid might be brought to the right temperature—all this confused and complicated fabric melted away as a morning mist before the touch of positive science applied by Galileo to inorganic matter and by Harvey to living organisms.

Let us not be unjust to Harvey's predecessors. It is quite true, and it should never be forgotten, that certain partial anticipations of his discovery had been made in the sixteenth century. By Servetus and by Colombo the transit of the blood from the right ventricle through the lungs to the left side of the heart had been distinctly put forward as the most probable hypothesis; and it is also true that Cesalpino had shown that, in consequence of the arrangement of the mitral and the aortic valves, the flow of blood was from the left ventricle towards the various organs of the body. I quote his actual words: "There is a motion from the veins into the heart while its heat draws in aliment; and at the same time there is a motion from the heart into the arteries, because, owing to the position of the valves, the blood cannot flow in any other way, for the same motion opens both apertures—that of the vein into the heart, that of the heart into the arteries."

Combining the view of Servetus and Colombo with that of Cesalpino, it might seem that a true and complete conception of the course taken by the blood would be reached; but, as a matter of fact by no physician or anatomist of the sixteenth century were they at any moment so combined. Cesalpino was entirely unaffected by Colombo's hypothesis of the minor circulation, and throughout his work I have not been able to find a single reference to it. The substantial identity of the fluid moving through the vascular system was never grasped by him or by anyone else. There were, men thought, two kinds of blood—one which was perpetually being manufactured in the liver and thence sent to the right side of the heart as fuel or aliment for the heart to work upon; the other was the concocted fluid flowing from the heart to the tissues, part of it having passed to the lungs, for cooling purposes, and part filtering through the partition wall dividing the right side of the heart from the left. When we leave the consideration of the motion of the blood and turn to that of the motion of the heart, we find Cesalpino, like all his predecessors, hopelessly in error. In his view the expansion of the heart with blood was the efficient cause of the blood's motion, this being produced, as we have seen, by the boiling up of the blood when exposed to the imaginary heat residing in the heart. He insists emphatically that the contraction of the heart was a mere collapse due to a temporary cessation of the boiling process. In death the collapse, he remarks, is complete; in the moribund it is nearly complete. To attribute any expulsive force to the heart in this condition would therefore be out of the question. Thus the pulse results not from systole, but from diastole. Indeed, the consideration of the pulse is the main subject in this chapter of Cesalpino, the question of the heart and its motions being quite secondary. It may be stated broadly that the conception of a complete circulation of the blood and the conception of the heart as a contractile organ exercising mechanical energy were alike foreign to him. Nothing is more interesting than the vivid, pithy way in which the true view both of the heart and of the blood is expressed in Harvey's MS. notes. "The heart, when contracting, moves like a muscle," he says. "By the impulse of the heart there is a perpetual movement of the blood in a circle." Again, if I may quote the quaint mixture of Latin and English, "Constat per fabricam cordis sanguinem per pulmones in aortam transferri as by two clacks of a waterbellows to rayse water." The imaginary furnace that had been set up for so many centuries within the human thorax disappeared, and in its place there was an organ of definite construction, comparable with one of Galileo's machines, exercising a measurable amount of energy. The overwhelming importance of Harvey's researches, the feature that marks them as an epoch in the history of modern science, is the positivity of their method. We pass from metaphysical haze into an atmosphere of reality, utility, certainty and precision. He uses every method of biological research, direct observation and measurement, experiment and, above all, the great Aristotelian method of comparison; an instrument of research created, so to speak, by biology, and one so potent in every branch of scientific investigation that, apart altogether from its application to medicine, the science of biology would deserve all the pains that have been spent upon it. It is to the use of the comparative method that Harvey himself explicitly attributes his success, yet to what an extent he used it could hardly be appreciated till the publication of the notes of his lectures. In these the anatomy of eighty animals examined by himself is referred to.

It has sometimes been said, especially of late years, that experimentation on living animals was the process through which Harvey's discovery was achieved; but this, though it has been used as a potent argument before an uninstructed public, has always appeared to me an exaggerated view. I am not about to enter, even in the most cursory way, into the ethics of the subject. It was not imagined in Harvey's time that any ethical problem was involved in it. So far as I can find, the first to recognise the existence of such a problem and to distinguish himself from his contemporaries by voluntarily accepting a certain measure of parsimony and restraint in experiments on living animals was that great and successful experimenter, deep thinker and humane man, Sir Charles Bell. But the question by what methods the discovery of the circulation was reached is one for the dry light of historical research. Harvey's MS. notes show, even more emphatically than his published work, that direct observation of the pulsating heart in the higher vertebrates taught him but little. "Neque visu neque tactu" are his emphatic words in these notes. "I could not follow the heart's motions by sight or by touch, though I watched them for hours together. Videte quam arduum et difficile discernere. See," he says, pointing at the moment to the experiment he was performing, "see how hard it is to distinguish by sight or touch as to dilatation or contraction, which is systole which diastole." When the animal was moribund and the movement slow, or when he operated on cold-blooded animals with a simpler form of heart, he was more successful. When the discovery had been fully made, and the business of convincing others of its truth began, vivisectional experiments were of use to him. But the principal paths that led to the discovery seems to me to have been—first, the conception of the heart as a machine, exercising definite and measurable force on the fluid which it contained; secondly, that for the first time there was an attempt to measure the amount of blood contained in the heart and voided with each contraction, the result being to show that the rapidity of the current, and consequently the mass of blood returning to the heart, was far greater than could be accounted for by new formation of blood resulting from ingested aliment; thirdly, a far more careful examination of the anatomical facts than had been made by Harvey's predecessors. To the careful study of the heart's valves the important discovery of the valves of the veins, due to Fabricius, was now added and for the first time interpreted. Finally, the whole was illumined by the

light of the comparative method, by the examination of the fœtal circulation on the one hand and of the vascular systems of the lower vertebrates on the other. The motto from Aristotle prefixed to his lectures shows that the comparative method was his guiding star. Leaving this part of my subject I pass now to the consideration of the effect produced by Harvey's discovery on the progress of medicine.

It is obvious that Harvey had struck into a new path. His discovery was assuredly the most momentous event in the history of medicine since the time of Galen. It was the foundation stone of scientific medicine. It was the first attempt to show that the processes of the human body followed or accompanied each other in accordance with laws as certain and as definite as those which Kepler was at that time revealing in the solar system, and Galileo in all moving bodies on the earth's surface. Henceforth it became clear that all laws of force and energy that might be seen to prevail in the organic world were applicable to the human body. As an engine performing work the heart stood on the same footing as any of the shipbuilding machines the operation of which Galileo had so carefully studied in the arsenals of Venice. The action of fluids in closed vessels under pressure was investigated in Harvey's youth by Servetus, and in his later life by Pascal. The results were applied at once to the contents of the human vascular system. Still greater prominence was given to Harvey's achievement by the all-embracing philosophy of Descartes, which during the latter part of Harvey's life had secured dominion over the intellect of Europe, and which retained it through the remainder of the seventeenth and a large part of the eighteenth century. That Descartes was among the first to appreciate the importance of Harvey's work has been often mentioned. Yet the question has not so often been asked, Why should Descartes, absorbed as he was in a general philosophy of the universe and of the human mind, have taken special notice of Harvey? It was extremely rare for Descartes to mention the name of any contemporary. I cannot call to mind in his writings more than one or two instances of his doing so. The explanation, as I believe, is this. Descartes had put forward a vast scheme of evolutionary philosophy, in which all the phenomena of the universe were to be explained as resulting from successive differentiations of a primitive homogeneous matter to which motion had been imparted. The scheme embraced the motions of the solar system, the forces of light, heat, gravitation and the phenomena of living beings—all these being conceived as successive differentiations of primitive rectilinear motion impressed on the ubiquitous ethereal substance with which space was filled. In his view there were no facts in nature which were insusceptible of explanation on mechanical principles, and which could not be deduced from such principles by a sufficiently powerful mathematical calculus. He had himself taken the first decisive step towards the construction of such a calculus in his Geometry published in 1637, leaving further steps to be taken half a century later by the infinitesimal analysis of Leibnitz, Newton and the Bernoullis. In his treatise on the nature of man Descartes had seized on the facts of the reflex action of the nervous system as illustrations of the automatic mechanical process by which the most complicated phenomena presented to our consideration could be explained. He welcomed Harvey's discovery as a yet more conclusive example of the applications of the new philosophy. The course of the blood, hitherto conceived as governed by vital spirits, by a vegetative soul, or by some other metaphysical figment of a like kind, was now seen to be determined by natural forces, to be regulated by the same laws of motion as those which governed inanimate matter. We know from the immortal prelude to his Philosophy, his Discourse on Method, how high were the hopes which Descartes founded on the future of biological research. "Health," he says, "is the first of good things and the foundation of all other good things in this life. For so close is the connexion of the mind with the temperament and the arrangement of bodily organs that if there be any instrument for making the mass of men wiser and more skilful than they have been till now, I believe that medicine is the art wherein to look for it. It is true that the medicine now in use offers little that is strikingly useful. But though I have no purpose to disparage it I feel sure that no one, even of those who now practise it, will deny that what is known is but a mere fraction of what remains to be discovered; and that we might gain freedom from a multitude of diseases both of mind and body, and perhaps also from the enfeeblement of old age, had we sufficient knowledge of their causes and of all the remedies with which nature has provided us."

Thus it was that under the combined influence of Harvey's discovery and of the Cartesian philosophy the vision of scientific medicine, the application of the laws of nature to the art of healing, dawned upon the world in the first half of the seventeenth century. It is worth our while to inquire with what results. Comte has remarked on the fact that the two initial discoveries of physics and of biology, the law of falling bodies and that of the circulation of the blood, were made simultaneously; and he has contrasted the immediate sequel in each case. Galileo's discoveries led by direct roads on one side to Newton and scientific astronomy, on the other to Torricelli, Pascal, Boyle, Mariotte, Black, Watt. To what did Harvey's discovery lead, and why the difference? The truth is that the medicine projected by the ambitious brain of Descartes was from the first foredoomed to failure. It aimed at satisfactory explanation of the facts of living organisms by the laws common to them with other kinds of matter; it recognised no phenomena exhibited by living bodies that could not be so explained. Biology was to Descartes a corollary of physics; it was not an independent department of science, with physics for a foundation, but having a superstructure peculiar to itself, requiring inductions of its own, methods of its own; it was a body of knowledge which was to be made amenable as soon as possible to mathematical treatment. This mode of regarding the subject imported into medicine a spirit of reality, of certainty and of precision which had never before belonged to it; but in each and every case the attempted solution fell short of the mark. There remained always a residuum that could not be accounted for in this way. Hence during the seventeenth and eighteenth centuries two opposing schools of medicine—the first fastening upon the lower more general laws which were susceptible of precise determination; the second dimly recognising the existence of certain higher and more special truths, which, however, they were unable to quantify or even to discern with clearness.

Before describing the opposition of these schools let us take stock of the scientific material available for medicine in the middle of the seventeenth century. We have already seen that in all that related to mechanical force as applied either to solids or fluids the first great steps had been taken by Galileo and Servetus. By Galileo's principal disciple, Torricelli, a discovery had been made the importance of which to medicine cannot be over-estimated—the discovery that the atmosphere had gravity, and that its pressure could be precisely measured. For the first time in the history of medicine the mechanism of the respiratory function became intelligible. It was seen to be a simple result of atmospheric pressure consequent on certain muscular contractions which enlarged the thoracic cavity. To Borelli and to Mayow of Oxford the credit must be given of first describing the respiratory apparatus with unmistakable clearness and accuracy. To Mayow also is due the first, or nearly the first, attempt to explain the chemistry of respiration. On the subject of heat, its formation, its propagation, its relation to mechanical force and its connexion with vital action there was complete, or almost complete, ignorance. Descartes, indeed, with the prescient instinct of genius, had put forward the conjecture that heat, like light, was a violent, insensible motion of the ethereal substance pervading the universe. But no proof was offered, no relation of this insensible molecular motion to molar motion was indicated; and the conjecture was buried with many other far cruder hypotheses of this great philosopher, to be revived in our own century. On animal heat the beliefs of physicians were of the most fanciful kind, and were in no respect sounder than those which had prevailed since the time of Aristotle. Descartes—and Harvey seems to have been in the same case—was content with the old view that the heart was a spontaneous source of heat. By this heat Descartes—deviating here from the sounder view of Harvey—held that the blood on entering the heart was expanded, such expansion being the principal motor force which, when the mitral valve was closed, propelled the current of blood through the body. A full century was to pass before Black and Lavoisier were to place the study of heat on a scientific foundation. The second great hiatus rendering a scientific grasp of vital facts impossible was the absence of anything that could be called a science of chemistry. We know life as a series of molecular changes, anabolic and katabolic, old substances decomposing, new compounds arising in their place. This continuous metabolism, following predetermined paths, is the distinctive fact of living organisms; that which most obviously demarcates them from inorganic matter. No event that takes place in a living body, no function of any organ, is

intelligible without it; yet of the chemistry of life Harvey and the generation following Harvey were entirely ignorant. A few metals had been added to the list of those found in the virgin state and known to the ancients, the principal alkalies and some of the mineral acids had been formed and several mineral salts had been investigated, but no step of the first importance had been taken since the time of Paracelsus, and, above all other deficiencies, there was no pneumatic chemistry. In John Mayow, indeed, there was a dim apprehension of the fact that something was contained in nitrate of potash of an ethereal volatile nature akin to the respirable atmosphere and essential to the maintenance both of life and of combustion, and I know nothing more interesting in the history of science than to trace in his works this clutching at the discovery of oxygen which yet eluded his grasp and that of other searchers after truth for a hundred years. The composition of air and water, the difference between air and other gases, remained undiscovered. Combustion was explained by the comprehensive though false theory of phlogiston, the ethereal substance endowed with negative gravity, a theory destined to hold its ground so tenaciously that even Priestley, a century afterwards, could not escape from its shackles. The chemistry of respiration remained unknown. Harvey, to whom both the mechanism of this function and its chemistry were alike obscure, has told us in his printed work, and still more clearly in his manuscript notes, how obscure a problem the whole subject of the lungs was to him, how great an obstacle to his discovery. Before birth the lungs were not needed for the circulation of the blood. Why should they become necessary afterwards?

As the scientific study of life presupposes a clear apprehension of these physical and chemical laws, it is abundantly clear that in Harvey's time a scientific conception of life was not possible. As the art of medicine rests, or at least is ultimately destined to rest, upon biological science, it follows that medicine regarded as a scientific art—an application, that is to say, of scientific principles to particular cases—must have remained throughout the seventeenth and the first half of the eighteenth century extremely crude and imperfect. Nevertheless, in the seventeenth century the attempt was made for the first time to found medical art on such scientific laws as had been then discovered. Harvey was not, perhaps, the conscious originator of this line of action; it was rather due to the stimulating influence exercised by the scientific philosophies of Galileo and Descartes. Still Harvey's discovery of the circulation was unquestionably the starting point from which it proceeded. It is worth while, as I have said, to watch closely the course of this procedure. For if much is to be reaped from the history of truth, something may also be gleaned from the history of error. Of Harvey himself we are told that after the publication of his discovery his practice fell off; the implication being that the propagation of a new truth aroused hostile prejudice and alienated those who had previously consulted him. Is there any valid proof of such alienation? By this College he was from the first held in profound respect; he enjoyed Royal favour so long as there was a king in England. Under the Commonwealth his old age was passed amid every sign of universal regard. I hope it will not be attributed to disrespect of so great a name if I suggest that among the reasons for diminished success in the practice of his art one may have been that his great discovery reacted upon it unfavourably. Had that treasure of his "Medical Observations," to which reference is so often made by him, been preserved to us, we should be able to answer this question with some certainty. As it is, we can but express a doubt whether the dazzling splendour of a new truth may not have brought about a temporary blindness to the old; whether this one function of the circulation, accurately and precisely determined, may not have seemed so overwhelmingly important, by contrast with the nebulous haze in which other functions were still wrapped, that the observer was tempted to account for the myriad phenomena of disease by disturbances of a single organ, and lost his power of regarding the organism as a whole, on which, nevertheless, the art of medicine has rested since Hippocrates, and must for ever rest. If this were so, it was not to be the last time in the history of modern medicine in which the two opposing processes of analysis and synthesis came into disastrous conflict, for that history records analogous reactions on medical practice of almost every important scientific discovery. What happened in Harvey's case we do not and cannot know, but as to the effect of his discovery on subsequent theories of medicine we are not left in doubt. A school of medicine arose, commonly known as the iatro-mathematical, which numbered many distinguished names, and held its ground for nearly a century, avowedly based on Harvey's discovery, and having for its aim the explanation of vital phenomena by mechanical forces. Some of the most important representatives of this school may be here mentioned. The first on the list is Giovanni Alfonso Borelli, born thirty years after Harvey at Naples, a professor of mathematics and of medicine at Rome and Pisa. He died in 1679. His great work, "De Motu Animalium," appeared the year afterwards. He was the first to analyse distinctly the operation of the muscular system and to attempt to assign with mathematical precision the exact mechanical energy exerted by each muscle. Before his time it had never been realised that the bones were levers and that the muscular tissue was the moving power; the resultant action depending on the angle at which the force was exerted and on the distance of the point of insertion from the centre of articulation. So long as the problem was one of elementary statics he was on safe ground; but many of the problems handled by him needed a higher calculus than was in his possession, and here he made serious miscalculations. The important step was, however, to break ground in this new field, to regard muscular energy as a measurable quantity. Borelli framed a careful and elaborate theory of muscular contractility. The muscle in contracting shortens. What makes it shorten? The first explanation is to compare it with what takes place in a rope when a weight attached to it is lifted, and successive parts of the rope become slack as the work is done; but in the muscle the contraction is simultaneous throughout the whole length. Secondly, the contraction of muscle is not elasticity; this would imply previous extension, and shortening could only take place to the point from which extension started. But, thirdly, can it be said that the contracted muscle is in a state of strain, which being removed the muscle shortens? If so, effort would be felt in the state of rest; while if any exertion was made there would be a feeling of repose. Again, it has been suggested that muscles contract by animal heat, as hair and other animal substances contract on scorching. Of such a rise of temperature there is no evidence whatever. Again, muscular contraction has been compared to the corrugation of worms or snakes, but this corrugation is itself the result of muscular contractions. Finally, he dismisses with scorn the view held by some that the process was not a mechanical one at all, but a vital one. "As though nature," he cries, "could dispense with the laws of destiny fixed by divine wisdom!" What, then, takes place when a muscle contracts? Some bodily substance, he conceived, is transmitted by the nerves to the muscular particles creating an explosion or ebullition, as when oil of vitriol is poured on chalk or water on quicklime. So long as this nervous juice continues to be distilled into the muscle, effervescence goes on, the fibres of the muscle are driven apart as by a wedge, and shortening of the muscle results. When the supply of nervous juice ceases things revert to their former state. Borelli's theory of nutrition was equally mechanical. Over-estimating the force of the heart as a mechanical agent, he conceived the blood as rushing through the vessels with sufficient force, first, to drive away worn-out particles from the tissues and eliminate them through the pores or otherwise; and, secondly, to rebuild the tissues by wedging in new particles adapted to the shape of the pores, just as in mosaic work stones of various shapes are fitted each into its proper place. This sample of Borelli's physiology will prepare us for his pathology. The central fact for the pathologists of that day was fever. What was Borelli's theory of fever? The accepted view was that it was a heat kindled in the heart. A fermentation was supposed to be set up in that organ, the result of which was to set free the spirituous and sulphurous parts of the blood, and thus to bring about the quick pulse and other phenomena of constitutional disturbance. "But where," asks Borelli, "is the proof that the heart is the scene of these chemical processes? What warrant have you for saying that the heart is hotter than the rest of the body? I," he says, "have tested the matter with a thermometer and can find no difference. [This, by the way, is the first instance known to me of the application of thermometry to animal physiology.] As to ferments contained in the heart, the lining membrane," he continues, "is perfectly smooth, and a torrent of blood rushing through it would sweep the imaginary substance away with it. Besides, it is easy to show by injection of hot substances into the blood that heat will not produce fever. No; it is not heat that causes the rapid motion of the blood, but the rapid

motion of the blood that produces fever. My theory of muscular action explains it. The nervous juice is poured out more abundantly into the heart and all the involuntary muscles, and arouses them to increased action. After a time the voluntary muscles cease to be voluntary, and these also are convulsed." Borelli was no doubt obliged to imagine some other cause at work to produce this excess of nervous juice. Either that juice was poisoned by some ferment in the glands which were richly supplied with blood, or the nervous tubules were mechanically obstructed and the fluid contained in them fermented. In any case the visible symptoms of pyrexia—the heat, the swelling, the redness, the pain—were due entirely to mechanical causes. The essential facts in fever were, in Borelli's view, facts of hydraulics. His followers, Lorenzo Bellini and Archibald Pitcairn, carried out the same view in a still more systematic way. Their names may be forgotten now, but in their own day their fame was European. Pitcairn was a native of Edinburgh, and practised medicine in that city, where he was the leading physician, but he had also occupied a chair at two foreign universities of the highest repute, Montpelier and Leyden. In the latter city the illustrious Boerhaave was among his pupils. It is to Pitcairn that Lorenzo Bellini dedicated his work.

Pitcairn's remarkable work, Elementa Medicinæ Physico-Mathematica, is a systematic treatise on medicine, beginning as was usual at that time with a statement of physiological principles. This is interesting if only as evidence of the overwhelming importance attached by his school to the discovery of Harvey. Life and the circulation of the blood are identical, he says; life *is* the circulation; there is no independent life of the parts. It is the body which lives, not any part of the body. Circulation, which is life, depends not on parts but on the whole. "Dividitur corpus in partes continentes et contentas, id est, canales et liquores." Vessels and the contents of vessels make up the whole substance of the body. The differences between one body and another were differences in the fluidity or viscosity of the contained liquids. Then follows his explanation of what was rightly looked on as the fundamental problem of animal heat. He conceived heat to be an explosive substance locked up in certain particles of the blood, and liberated by the attrition of those particles; this attrition, of course, proceeding more rapidly as the circulation was more vigorous. The notion that animal heat resulted from a certain residuum of blood left in the heart and continually fermenting he scornfully rejected, as Borelli had done. There could be, he said, no such remnant. The lining of the heart was smooth, and the whole mass of blood swept through it and passed on. To invoke the chemistry of fermentation was needless. Mechanical causes accounted for the whole. For the pathological fact of fever, or at least pyrexia, mechanics supplied sufficient explanation. "By the word fever," he says, "I understand the velocity of the circulation uniformly increased in equal intervals of time." Increased motion of the blood produces rarefaction, as blood flows more rapidly from capillaries to veins. On rarefaction follows increased secretion of nervous fluid; on this again increased action of the heart's muscular tissue, hence a quicker pulse, so that the effect of increased cardiac action also becomes its cause. The classical symptoms of fever—flushing, swelling, pain, want of sleep, convulsions, hæmorrhage, cutaneous eruption, parched tongue, thirst, anorexia, loaded urine—are each in turn explained as the result of mechanical processes. Intimately associated with Pitcairn was Lorenzo Bellini, one of Borelli's pupils, who carried on the same line of research in an even more systematic way. The problem specially attacked by him was that of secretion, attributed by the chemical school of physicians to the action of ferments. For this school the familiar fact of fermentation, with its attendant phenomena of effervescence—heat, change of substance &c—did duty as the one solitary representative of the vast domain now known as organic chemistry. It had very naturally and legitimately forced itself upon the attention of those men, offering as it did a prompt explanation of a multitude of obscure facts. The liver was supposed to secrete bile by virtue of its ferment; so did the pancreas, so did the salivary glands, the kidneys, the gastric mucous membrane; nay, as we have seen, the fact of animal heat itself was supposed to be elucidated by an imaginary ferment residing in the heart and acting on the blood as it passed through. Everything could be explained in this way. Men soon become the slaves of words; and so here the word "fermentation" (which in reality held the clue—as 200 years afterwards we have come to see—to some of the hidden secrets of life and disease) became a mere metaphysical figment like the dormitive influence of opium in Molière's play. It solved hard problems by the simple process of restating them in obscurer and more pedantic language. Against these crude chemical theories the mechanical school of physicians, with Bellini at their head, waged fierce battle. "What sort of an explanation," he asked, "do you arrive at by your theory of ferments? If secretion is caused by a ferment contained in a gland, then what is it that secretes that ferment? Suppose, for instance, that bile is secreted from the blood by some special ferment; that ferment requires a second ferment to secrete it, and that second yet a third, and so on without end." But in truth the whole of this chemical apparatus is, he maintained, unnecessary if we think for a moment what is meant by the cohesion of particles of matter. Two molecules press towards one another with a given force and in a given direction. Change the force and the direction and we have a new arrangement of molecules—in other words, a new compound. To effect this change some external force is needed, but this need not be a ferment; the action is mechanical, not chemical. Secretion is the separation of certain elements of an animal fluid from the rest. Now we see this separation taking place outside the body without these imaginary ferments, as, for instance, after bloodletting, in the separation of the clot from the serum. What takes place outside the body may take place inside. "See again," he continued, "what takes place when blood is placed in a vessel and subjected to Mr. Boyle's new machine for extracting the air. Ebullition, evaporation takes place—that is to say, portions of liquid at once separate from the rest, which had previously been held down in contact with them by the pressure of the superincumbent atmosphere. So it is that inside the body changes of mechanical pressure suffice to explain all that takes place. A gland is simply a closed vessel with extremely small perforations of different shape and size. What takes place in it is as purely mechanical as what goes on in the formation of a blood-clot or the filtering of fine sand from coarse. There is not the slightest necessity for complicating the matter with ferments. *Deus naturæ conditor est Deus facilitatis* (God does everything in the simplest way)." As time went on the potent mathematical calculus of Leibnitz, Newton and the Bernoullis held out increasing hopes of being able to overtake the subtle processes of nature, and of anticipating direct observation by a reasoning process. Dealing with the infinitely little as well as with the infinitely great, prepared to represent every natural form, even the variations of each human countenance, by an algebraical equation, it seemed to them that they were entering on a path leading directly to omniscience, and surely capable of unravelling the intricacies of life and of disease.

It would be interesting, were there time to do so, and it would not be uninstructive, to trace the influence of this extraordinary scientific stimulus upon the great physicians of the early part of the eighteenth century, more especially upon Boerhaave, a pupil, as I have remarked, of Pitcairn, and upon Richard Mead. In Boerhaave's theory of fever the excited pulse indicated the effort of the heart to sweep away, as by a flood tide, the obstruction in the capillaries, and a similar attempt to explain biological facts by the mechanical forces of the circulation is to be noted in Mead's discussion of the operation of poisons. But these great physicians were preserved by the wise empiricism of their clinical instinct from the extravagances that beset more one-sided men.

Thus it was that the devotees of the two great sciences of mathematical physics and of chemistry—the one brought to a high degree of perfection, the other crude, imperfect, struggling to be born—strove strenuously for their exclusive application to the art of medicine. The iatro-physicists were far more fitly furnished than their adversaries with the armament of scientific discovery. They had arisen with Galileo and Harvey; they were carried triumphantly onward by Torricelli and Pascal, by Boyle, Newton and the Bernoullis. The great discovery of Harvey was their own domain; to extend its application to every bodily function was the goal of their efforts. The chemiatric school, on the other hand, could rely only on the sinister though seductive memories of Paracelsus, and on the dawning hopes of a future which they were not to witness. The struggle was watched by a third school of medical investigators, who saw weak joints in the armour of both the combatants—I speak of the animist school, which arose at the end of the seventeenth century under the leadership of Stahl. He was the most prominent chemist of his time. His hypothesis of phlogiston

was accepted as a satisfactory explanation of combustion for three-quarters of a century. But Stahl felt in a confused, dim, strenuous way that the facts of life—the selective, coördinating, prearranging processes presented by the humblest animal or plant—were not to be accounted for by the play of mechanical or chemical forces. So strong were his convictions on this point that his Archè, or Vital Principle, dispensed altogether with mechanics and chemistry. It was a metaphysical figment, involving error at the least as gross as that against which he contended; but within the husk lay the germ of an all-important truth.

Later in the eighteenth century the discoveries of Black, Cavendish and Lavoisier fulfilled the preliminary conditions for the evolution of biology as a distinct science. Haller, Hunter, Bichat and others brought that science to the birth. From that time to this it has become more and more plain that physics, chemistry, biology each has its own domain, its own methods, its own body of inductions, each of the latter terms in the series using the results of its predecessor and adding new results of its own. Life is a structure built up of physical and chemical facts. Yet to the building, to the arrangement, to the ordering of those facts there goes something that neither physics nor chemistry can explain any more than algebra can explain the behaviour of a magnet. To strive to interpret the series of events which make up the life of an animal in terms of chemical metabolism or of conservation and expenditure of energy is an endeavour which will fail; though it is a useful endeavour, because only thus can we eliminate what remains. That something remains the greatest of living British physicists has recently assured us. The admitted insufficiency, to take one instance from a thousand, of Lavoisier's theory of combustion to account for the phenomena of animal heat, the admitted necessity of seeking in the nervous system for a thermotaxic centre or centres to account for the amazing adjustments of the organism to changes of temperature in the environment, were enough to convince the biologist that though he receives his building material from the physicist he must construct the edifice for himself.

The history of medicine is a strange and fascinating though sometimes a melancholy record. We see in the fifth century before our era a man of genius, gifted with that marvellous union of the observing eye with constructive imagination which astounds us in the sculptors of the Parthenon, building up without science, without anatomy, the fabric of medical art of which what we still practise is but the enlargement. Inheriting from the priestly guild from which he sprang a vast store of observations, and adding yet more of his own, Hippocrates was guided in dealing with them by two fundamental principles—(1) that diseases, like other phenomena of nature, follow a natural sequence; (2) that the organism of man, however complex, is yet an individual whole, each part receiving and impressing reactions on every other. After Aristotle and Galen had done their work long centuries ensued of blind and sterile routine, followed by a period of acute but one-sided analysis. By the help of such analysis it may be that the Hippocratic synthesis will be again built up on a more enduring basis. The ideal perfection of medical art rests upon an equally ideal perfection of the science of human nature, summed up in complete knowledge of our organism and of the influences that act on it. The goal is unattainable, yet till it be approached the physician must be content with empirical knowledge of an infinite array of facts—biological, psychological, ethical, which, though certain as mathematics, yet do not admit of quantitative determination. It is only within the last generation that the word "subjective" has become familiar to the biologist. As the student of sensory organs deals with some of these subjective facts, so does the student of human passions deal with others, for these, no less than sensations, are functions of our organism. To determine the way in which this or that man will be affected by any morbid process without taking account of such facts is assuredly impossible. They must be taken into account at all costs; if not by scientific process, then by wise empirical instinct. I shall conclude with saying that as medical art has been affected by the rise of physics and chemistry in the seventeenth and eighteenth centuries, so will it be affected by the scientific sociology of the nineteenth and the twentieth. Not till science has fully embraced every aspect of human life can medical art, as founded upon science, hope to be complete. But at the dawn of modern science in the seventeenth century the dazzling brilliance of mathematical and physical discovery led the keen and daring minds of whom I have been speaking to the belief that all phenomena with which the physician deals could be spoken of in terms of mechanics. It was a legitimate and inevitable stage in the progress of the human mind. Without it the later stages would have been impossible. It initiated the great discovery of Harvey, whom not merely we, but future generations, will continue to venerate as the principal founder of scientific medicine.

Lecture
ON
ANATOMY AS A SCIENCE AND IN RELATION TO MEDICAL STUDY.

Delivered at the Opening of the Medical Session in the University of Glasgow, Oct. 18th, 1892,

BY JOHN CLELAND, M.D., L.R.C.S. EDIN. &c.,
PROFESSOR OF ANATOMY AT THE UNIVERSITY.

(Concluded from page 929.)

As in every other branch of science, including the science of medicine itself, so also in anatomy the lowest stage consists of observation, either direct and simple, or aided by artificial helps. This is the stage of "phenomenology," as it has been aptly called; and although deservedly described as not in itself rising to the dignity of science, it is fundamental, all the rest being superstructures whose validity depends on the soundness of the observations on which it rests. It has, moreover, this dignity and educational value, that it requires for its prosecution a faculty which, like every other faculty, must be trained to do good work, and one which cannot be neglected without detriment to the mind as an instrument for discovering truth. The faculty of observation is that by which attention is deliberately bestowed on details appreciated by the senses; by which also they are accurately and consciously recognised and recorded in the memory, so as to serve as data for guidance in further observation. The artisan and scientist train it, each in his own line; but in general education it is very often neglected, while the jaded memory is brought to the front. From observation the mind passes on to reflection; and, just as in the development of the individual mind, so in the growth of every science, the accumulation of facts leads to inquiry into their meaning. Then generalisations and meanings learned as explanations of phenomena demand in turn to be themselves explained, till at last studies which had become more and more distinct as they diverged into territories opening before them meet again as from different sides they are brought into contact with the inscrutable problems of being. But though the progress of science may be analysed into stages, it is not to be supposed that these are practically altogether distinct. Anatomy having come into being in the service of physiology, has busied itself from the commencement with questions of final cause, the uses which organs serve in the economy. It never had a prephysiological era; it was impossible at the outset to consider structure apart from function, and inasmuch as structure cannot have come into developed existence, either in the individual or in its totality, except by the operation of function, any more than function can exist without structure, anatomy and physiology cannot be permanently dissociated. Vesalius saw clearly, and I suppose he was the first to do so, that a temporary retreat from physiological considerations was necessary for anatomical progress. He seems to have appreciated that there was nothing constant in the human body, however purposeless it might seem to be, which was not worthy of close inspection and accurate description. The importance of anatomical fact lay to him in its constancy. Doubtless in later times, heavy and painful description has often been elaborated and taught to students as important, in a way which furnishes a good discipline to them, by men who have simply run in the grooves which others have made who have thought that in carrying elaboration further for its own sake they were making the highest advances possible,—worthy men incapable of looking below the surfaces of things, though full of the peaceful enjoyment which comes to the honest worker. But to initiate a system of elaboration which requires generations to carry out is a different thing, and denotes faith that it will

lead to something more; and this was the position of Vesalius. One of those men who seem to have had a fever for hard work, directed even in boyhood to anatomy, he was capable of enjoying the luxury of the courts of Charles V. and his son Philip of Spain, and leaves evidence in the truly wonderful illustrations of his masterpiece, "De Corporis Humani Fabrica," of a keen enjoyment of artistic beauty of form and the appreciation of it as pervading internal structure. But the work stands out mainly as a monument of a new idea of precision of observation and accuracy of detail, contrasting with what went before and laying the foundations of descriptive anatomy apart from physiology.

It is not till modern times that we find anatomy rising to the conception of a rational morphology. It is only in modern times that the word "morphology" makes its appearance. During the last decade or so it has been a good deal employed in an altogether unnecessary way as a mere synonym for anatomy as opposed to physiology. Such a use of the word is to be condemned. The word is not morphography, but morphology, and means not the description of forms, but the study of their relations one to another—morphological and not topographical relations. These relationships are of different kinds. There is a symmetrical correspondence of right and left sides, obvious to the eye but as yet never grappled with in its causation. There is sexual correspondence, or the fundamental identity of organs differently developed in the two sexes, a correspondence to a certain extent vaguely appreciated even by the old anatomists. More remarkable are two other kinds—viz., the serial correspondence of different parts in one animal and the correspondence of parts in different animals. One digit manifestly repeats another. The lower limb also manifestly repeats to a considerable extent the upper, and the mind is led on to compare the two more and more in detail. Architectural harmonies throughout the whole body become apparent—in some instances so obvious that at first it does not seem necessary to remark upon them; in others so questionable that further research is required to ascertain if they are real; and even when a correspondence undoubtedly exists there may be questions as to its details. For example, a part of the hand obviously corresponds with the heel; but it requires a good deal of investigation to settle precisely how much of the hand corresponds with the heel-bone. These inquiries cannot be successfully carried out unless we look at corresponding structures in different animals, and it is a matter of fact that it was only when comparative anatomy came to be systematically studied that these inquiries began to be made. Besides this, it is really the same sort of task to make a just comparison of the bones of the skull of a fish with those of the human skull as it is to arrive at the morphological relations of the skull to the vertebral column in man. Thus, pure human anatomy rises to a higher than a mere observational stage, and leaves physiology for a time only to find itself part and parcel of a larger science of which the study of the lower animals forms a necessary portion. At this stage it has not reached its highest level, but it has gained a vantage ground from which the mind is influenced in its whole conception of animated nature. There springs up, as there sprang up before the eye of Geoffroy St. Hilaire, a vivid view of what he called the unity of organisation—a unity which has to be recognised in many details before the questions can be profitably asked, "How did such unity come to be, and how did the objects come to exist in which it is exhibited?"

Doubtless the same unity in variety which is studied in homology of structure pervades other things as well. Time and chance have their influence on everything, and the researches of the philologist into the origins and affinities of words and languages display in like manner the derivation of the complex from the elementary and of dissimilars from common origin. Perhaps simpler illustrations of gradual variation, evolution and degeneration are furnished by the history of architecture, and illustrations even more familiar are abundant in the history of dress. The hats, coats, and boots of the present day cannot be accounted for without knowing those which have preceded them and the influences which have operated to produce change. Perhaps you think that because fashion is largely founded on caprice its changes are sufficiently accounted for by attributing them to that cause. But caprice itself is subject to law—namely, to the causation of antecedence and environment, and every shape of garment is descended from another which leaves its mark on it. The lapels of dress-coats, with useless nicks and jagged points and impossible button-holes without buttons to match, are the vestigial remains of fronts which buttoned across the chest, collars that protected the neck, and the space left for the chin when the breast was buttoned and the collar up. Thus, also, there is not a discovery, not an act, not a thought which is not evolved from its antecedents, both external and internal to the thinking agent; but the homologies of living structure, whether animal or vegetable, have their special interest in being, not the result of the succession of human ideas, like the homologies of words and clothes and buildings and many other things, but part of the order of growth by which the organisms exhibiting them exist. There are three ascending series of forms which demand attention in the prosecution of the higher anatomy—viz., first, that passed through from the earliest stages of existence, the embryological series; secondly, the adult forms at present existing, from the lowest to the highest, constituting the comparative anatomy series; and, thirdly, the forms existing in different geological epochs—the palæontological series. The last is so imperfect at the best, and so almost disappeared as regards soft textures, that its relics stand out only as guides to what has been when they are translated by that which now exists. Thus it is present forms which in their adult diversities and their more similar early stages furnish the field from which the data for the higher anatomy are derived. Not otherwise than with eyes ready to consider all can the purely morphological investigation of the architectural meaning of parts be properly carried on and the steps of evolution from the simple to the complex be rightly understood. But pure morphology is not the final goal of anatomy. The history of the body is not completed when the stages through which it has passed have been described and its parts have been compared one with another and with those of other organisms. The recognition of stages and resemblances opens up questions of causation. What is it which effects from the ovum the development of the aggregate of millions of shapely structures constituting the organism into one shapely and finely determined whole? The starting of such an inquiry leads to another important, though much smaller, question. Is there any genetic bond of relationship between different kinds of organisms? This latter question is now universally answered, or almost universally, by biologists, in the affirmative, not because the answer can be proved, but because scientific probability points altogether in that direction. It was raised and answered in the affirmative by Lamarck and St. Hilaire, and the affirmative answer has become popular since Darwin wrote. But the genetic connexion of different beings, when established, only presents us with a development or a series of developments through the ages which is comparable with the development of the individual adult from the ovum. It makes it all one genesis with which we have to do, but it still remains to investigate the causation which, carried down from parent to offspring, in a manner called heredity, passes through the narrow channel of a fertile ovum and moulds different beings to their shapes. Such a tremendous problem is naturally liable to be attacked piecemeal, and more or less partial solutions have been offered at different times in Lamarck's theory of appetency, Darwin's theory of natural selection and Weismann's hypothesis already nearly shelved. These theories all deal with heredity, but none of them can be said to give any idea of what the source of heredity is. It is a common notion among biologists that the whole secret of life is to be explained by the operation of the laws of dead matter, and those who hold this notion think it highly philosophical, but neither the physical nor the chemical laboratory reveals any phenomenon similar in kind to organisation, reproduction or heredity.

There are two propositions which I shall now lay down; both of them are founded on purely anatomical data, and already made familiar to some of you in the class room. I claim them as my own, and think it is important to keep them in view in investigating the causation of life. The first does something to simplify, though not to explain, the problem, and is that all segmentation or metamerism, animal or vegetable—all serial homology—is simply a variety of reproduction; that process which in its simplest form converts a unit of texture or a unicellular organism into more than one, and in the form known as gemmation or budding of complex organisms presents not a single corpuscle resolving itself into a number, but an undifferentiated mass of corpuscles resolving itself into repetitions of the forms from which it sprang. My other proposition, already laid before the scientific world, is that the organising power, including heredity, is in vertebrate animals demonstrably not resident in the individual living corpuscles of which the embryo is composed, but in masses of these. The demonstration comes from the study

of malformations, from instances in which heredity is opposed by mechanical obstacles, and I shall on this occasion take for example the development of the eye in cyclopia, that curious form of development in which an eye is placed, not indeed in the forehead, as in the fabled cyclops, but underneath the nose. The seniors among you know that the eyes take origin separately one from another. But in cyclopia there is a single mesial eye, shapely, though not perhaps perfect in all details. The masses which ought to have produced two eyes, being mechanically prevented from moving outwards, produce not two imperfect eyeballs crushed together, or intercalated one with the other, but a single symmetrical globe with muscles arranged around it, and often with a perfect cornea. This is only one instance among many of the same kind showing that masses of corpuscles act consentaneously, ordered by some pervading influence different from the chemical or structural composition of each. Therefore, *life is not, as has been alleged, a mere property or set of properties, chemical or other of protoplasm.* Life, mere organic life, is not an evolution of the properties of the chemical elements; it is something more, a new order of things made manifest on the earth.

I pursue this subject no further at present. My object has been to show by illustration from anatomy the stages of advance of a division of natural science,—how, devoting itself in the first place steadily to intricate details, it deals as it progresses with high and varied problems and becomes more and more evidently a factor in philosophy. I have done this that you who are students of medicine in this university may see how the hand of Medicine herself beckons you on to the largest and deepest inquiries, to a culture of the mind and a recognition of the universe second to none that can employ the intellectual powers.

ABSTRACT OF THE

Introductory Address.

Delivered at Anderson's College on Tuesday, Oct. 18th, 1892,

BY W. L. REID, M.D., F.F.P.S. GLAS.,

PROFESSOR OF MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN, ANDERSON'S COLLEGE, GLASGOW.

[THE lecturer introduced his subject by recounting the early career of Dr. William Smellie, whom he regarded as the type of a truly successful medical practitioner, and the prominent features of whose character formed the gist of the address.]

1. Smellie did not believe that poverty was a barrier to success. We find careful notes of cases dated 1722, within a few months after he began practice, and there is something touching in the idea of this man courting science so assiduously, while yet obliged to sell cloth to keep himself in daily bread. Afterwards, when a somewhat scurrilous opponent, amongst other charges, taunted him with the fact that he had at first to advertise his lectures on a street lamp, he took pains to refute thoroughly the more serious charges, but was not concerned to deny that poverty had compelled him to resort to such a device. I have known many students who were ruined by having too much money; very few, indeed, through having too little.

2. Smellie was a man of great industry. We see this from the elaborate and accurate notes he took of his cases, as well as from the fact that he taught midwifery clinically by attending cases of labour with his pupils, in whose presence he delivered 1150 women during his first ten years of teaching. I know something of the labour involved in work of this sort amongst the poor, and we have evidence in the details of his work that time and labour were not much thought of when expended for this purpose. He was not industrious by fits and starts. His record of cases for the forty years he was in practice is almost uninterrupted except during the year 1739, when he was searching in London and Paris for further instruction in his favourite subject. According to the views of certain people Smellie should have spent one evening a week at the theatre and another at a music-hall, or what in those days represented such. In my opinion he did better. He varied his usual work by studying music and painting as personal accomplishments. Thus, in his will he left to the Lanark Library, which he founded, "nine English floots with the thick 4to gilt music-book," and the only known portrait of Smellie is an oil painting now in the possession of the Royal College of Surgeons, Edinburgh, painted by his own hand. Again, his obstetric plates, of which the late Dr. McClintock of Dublin says that they "have been universally admired for their accuracy and their execution, in which important particulars they far surpassed anything that had ever appeared before and have seldom been equalled since," are known to be partly his own work, as he speaks of having been "assisted" with them by Dr Camper, Professor of Anatony at Amsterdam. I should advise you, gentlemen, especially while you are students, to copy Smellie in his steady work. It is true that a clever man may put on a spurt towards the end of a session and distance his fellows, but the greatly safer plan is to keep well abreast of your work by doing the day's work every day. No less would I advise you to have some relaxation, but let it be one which need not take you out of your own rooms in the evening, the evening hours being, at least for the medical student, those in which he has most opportunity of reading steadily. The late Dr. John Brown of Edinburgh thought that a doctor's relaxation might wisely be literary in its character. "I like to show," he says, "that our medicus may be not only, like Locke, at once a good physician and metaphysician, or, like Adams, equally great as a scholar and a domestic 'leech,' but that he may be a poet too."

3. Smellie was an enthusiast in his work. Our world at present is cursed with half-hearted workers, men who occupy positions and profess to do work in which they have little or no interest. The man of whom we are speaking was not of this sort; indeed, in his heartiness he was occasionally betrayed into making statements that sound self-laudatory. Thus, in speaking of "phantoms" and "dummies" as we now call them, he says: "I considered that there was a possibility of forming machines which should so exactly imitate real women and children as to exhibit to the learner all the difficulties that happen in midwifery, and such I actually contrived and made by dint of uncommon labour and application." A pamphlet was published in 1773, directed against the practice of midwifery by men, which practice Smellie had strongly supported. Yet this antagonistic author felt bound to speak of Smellie as an individual in the following terms: "I knew him well ..... he was an honest man ..... and, what ought to recommend him and enforce his authority with those of his fraternity, he was an enthusiast in his profession. Man-midwifery was the idol of his heart; he believed in his forceps as firmly as he believed in his Bible." Dr. McClintock, in giving this quotation, adds: "The indomitable perseverance he displayed in very many of his operations is most remarkable, and, considering the strong popular prejudices then existing against instruments and male practitioners, it must have required no small degree of moral courage and confidence in his own resources to have acted as he did." If any of you, gentlemen, find, as you go on with the study of this profession of medicine, that for you it lacks real interest and that you look forward to its practice simply as a means of earning a living, I forewarn you that you may look forward also to a life of comparative drudgery; for, unless brightened by real interest, the work will be found hard to a degree.

4. Smellie's thoroughness was remarkable, and this, of course, followed on the heartiness with which he did his work. In the preface to his volume of lectures he says that he hopes the reader will not imagine that it was "cooked up in a hurry," and informs him that he had taken six years to write it and that it had been "from time to time altered, amended and digested." What a boon it would be to us students and practitioners if all authors of medical books could say this truly of their productions. Dr. McClintock, in his memoir of Smellie, and in its very first words, refers to this matter of thoroughness. "As a teacher, author and practitioner there is no British obstetrician—certainly none of the eighteenth century—who deserves so high a place in our estimation as William Smellie." Is there not an important lesson for us here? How can a man do effectual service to his neighbour or raise himself in his own estimation if he knows in his heart that his work is done in a slipshod slovenly manner? Let us, then, determine firmly—for we must all find it a difficult task—to do to the very best of our ability what duty brings to our hand.

5. Smellie had great power of observation, which is usually

another way of saying that he had carefully trained himself to get at facts, to see things not as they seemed but as they actually were. He, like all men who have done good, original work, believed in a constant appeal to nature. Dr. McClintock says of him that "he was a keen and accurate observer of nature and exercised the utmost care in obtaining correct data on which to found his conclusions. Here was the secret of his unrivalled success as a reformer and improver of midwifery." Rigby also, in the preface to his translation of Naegelé's "Mechanism of Parturition," says that "any person who has devoted his attention to midwifery and is at all acquainted with the history of this branch of the medical profession must acknowledge the immense advance it made during the beginning and middle of the last century in the hands of Smellie and others." In this respect, gentlemen, we shall all do well to imitate Smellie. Let us learn carefully to observe facts, note them as carefully and not less carefully reason from them afterwards. In this way we may hope to rear on the foundations laid by those who have gone before us a superstructure of abiding truth. Dr. John Brown had strong views on this subject. Writing near the end of his eminently thoughtful life he said: "Although recognising fully the immense enlargement of our means of knowledge in these latter years, I would put in as strong a word as ever for the cultivation and concentration of the unassisted senses. Microscopes, sphygmographs &c. are good, but do not let us neglect the drawing out into full power by the keen and intelligent use of them those eyes which we can always carry with us."

6. Smellie was very disinterested, generous in his disposition and ready to give credit to others for their good work. Thus in connexion with his knowledge of obstetrical instruments he said: "In particular I was obliged to Dr. Gordon of Glasgow and Dr. Inglish of Lanark in Scotland; the first made me acquainted with the blunt hook, the other with the noose; and in London, Dr. Nisbet assisted me in improving the forceps, and Dr. Hunter in reforming the wrong practice of delivering the placenta." One of his old pupils remarked of Smellie that "no man was more communicative without the least self-sufficiency or ostentation." It is difficult to estimate how far his good influence went, for, amongst many others who afterwards became more or less famous, he taught Wiliam Hunter and Denman, Dr. McBride of Dublin and Professor Roederer of Göttingen, and through them hundreds of their successors. Smellie was at first bitterly opposed by the midwives and many of the medical men of London, and I could give no end of amusing instances of their more or less disguised attacks on men midwives in general and him in particular. A big female practitioner in London in those days was Mrs. Elizabeth Nikell of the Haymarket, who in 1760 published "A Treatise on the Art of Midwifery." A few extracts from her "Treatise" will give you some notion of the kind of opposition Smellie had to encounter in the introduction of the forceps and improved methods of delivery in general. Thus she sought to bring his phantom and dummy into ridicule in the following passage: "This was a wooden statue representing a woman with child, whose belly was of leather, in which a bladder full, perhaps of small beer, represented the uterus. This bladder was stopped with a cork, to which was fastened a string of packthread to tap it occasionally and demonstrate in a palpable manner the flowing of the red-coloured waters. In short, in the middle of the bladder was a wax doll, to which were given various positions. By this admirably ingenious piece of machinery were formed and started up an innumerable and formidable swarm of men-midwives, spread over the town and country. ..... I hope, too, that it is an injustice done to that doctor by those who say that his pupils have too often a way of hurrying out the waters, which can only serve to render the labour more dry, consequently more laborious, and by that means furnish a handle for setting their instruments to work." Again, in advising ladies as to what kind of practitioner they should employ, she says: "If, on the contrary, and what the most frequently happens, you fall into the hands of one of the common men-midwives, either of that multitude of disciples of Dr. Smellie, trained up at the feet of his artificial doll, or, in short, of those self-constituted men-midwives, made out of broken barbers, tailors or even pork butchers (I know myself one of this last trade, who, after passing half his life in stuffing sausages, is turned an intrepid physician and man midwife), must not, I say, practitioners of this stamp be admirably fitted as well for the manual operation as for the prescriptions?" That this lady had a vein of genuine sarcasm may be observed in the following quotation: "But if it is not too presumptuous for me to offer so learned a gentleman as the doctor a hint of improvement for his man-practitioner's toilette, upon these occasions I would advise for the younger ones a round-ear cap, with pink and silver bridles, which would greatly soften anything too masculine in their appearance on a function which is so thoroughly a female one. As to the older ones a double clout pinned under their chin could not but give them the air of very venerable old women." Of the calling of obstetrics, as practised by men, it is said to be "an upstart profession, sordidly mean in its motives, infamously false in its pretences, shamefully ridiculous in its practice, and yet dreadfully serious in all its consequences." "Yes, an ignorant midwife, without perhaps anatomy enough to know where the *pineal gland* is, or without so much as having heard the name of the *ossa innominata*, and with purely her expertness, and with that sort of knowledge she has at her fingers' ends, will give you a more useful and practical account of matters as they go, where it is sometimes so infinitely important to know how they go, than the most learned anatomist that ever dissected a corpse, brandished a forceps, stuck a crotchet into a child's brain-pan, or tore open a living woman." These quotations may serve to give us some idea of the difficulty, and even danger, to which Smellie exposed himself in delivering poor women instrumentally in those days, and it is a matter of fact that, but for the happy termination of some of his cases, he would have suffered bodily injury at the hands of the mob.

7. Smellie had a high idea of the dignity of his profession. In speaking of the efforts of himself and others to improve the different forms of obstetrical instruments, he adds, evidently referring to such men as Roonhuysen and the Chamberlens, who had concealed their inventions of the vectis and the forceps from their medical brethren, "I hope every gentleman will despise and avoid the character of a secret-monger." Let it be your ambition, gentlemen, should you be fortunate enough to discover any new means of relieving weakness and pain to make such known as widely as you can, so that the honour of our profession may be sustained and suffering humanity benefited. Be sure that in some shape you will not lack your reward.

To sum up, gentlemen, I would advise you to consider carefully whether you are carrying on your work as medical students *con amore*, and if not to turn to something more congenial. Next, to make up your minds to work steadily with wise and reasonable relaxation, holding in view that the relaxation may possibly be made such as to subserve your professional progress. Perhaps some of you may meet me with the assertion that there are now so many "ologies" to be learned that one has no time for relaxation. Well, there is some truth in this, and you must exercise your judgment as to how far you should go in prosecuting such studies. My own belief is that a steady worker can easily go as far as the pass examination demands and yet have time for sufficient relaxation, both physical and mental. Dr. John Brown, whom I have already quoted, had no great faith in theoretically over-educated medical students. He recommends men to study vigorously the essentials of their profession, so as to get them well by the back, not meanwhile overloading themselves with the "ologies," but afterwards when time and opportunity offer studying those interesting and important, but less practical subjects. "Often," says he, "when I see some of our modern Admirable Crichtons leaving their university armed *cap-à-pie*, and taking the road, where they are sure to meet with lions of all sorts, I think of King Jamie, in his full armour—'Naebody daur meddle wi' me, and, with a helpless grin, 'I daur meddle wi' naebody.'" We may differ from Dr. Brown when he asserts that a man too full of certain kinds of knowledge may be thereby incapacitated for effective everyday work; but we can hardly differ from him when he says that "sagacity, manual dexterity, cultivated and intelligent presence of mind, the *tactus eruditus*, a kind heart, and a conscience—these, if there at all, are always at hand, always inestimable; and if wanting, 'though I speak with the tongues of men and of angels, I am as sounding brass, or a tinkling cymbal; and though I understand all mysteries and all knowledge, I am nothing.' I can profit my patient and myself nothing." Smellie in the introduction to his Treatise on Midwifery, after reviewing the work of those who had gone before him and pointing out the fact that with their limited opportunities they had done wonders, concludes with some observations which I also, in concluding, commend to

you and myself for careful consideration: "True it is we have established a better method of delivering in laborious and preternatural cases by which many children are saved that must have been destroyed by their manner of practice; but are not many modern practitioners justly branded for their sordid and unsocial principles in professing nostrums, both with regard to medicine and methods of delivery? Insomuch that I have heard a gentleman of eminence in one of the branches of medicine affirm that he never knew one person of our profession who did not pretend to be in possession of some secret or another; from whence he concluded that we were altogether a body of empirics. Such reflections ought to make a suitable impression upon the minds of the honest and ingenuous, prompt them to lay aside all such pitiful, selfish considerations, and for the future act with openness and candour, which cannot fail of redounding to the honour of the profession and the good of society, as well as their own advantage."

ABSTRACT OF THE

Inaugural Address

Delivered at the Opening of the Session at St. Mungo's College, Glasgow,

BY D. C. McVAIL, M.B. GLAS.,
PROFESSOR OF CLINICAL MEDICINE AT THE COLLEGE.

I HAVE the honour to bid you welcome to this College on this first day of a new session. The work you will be engaged in and the manner in which you will do it is of the greatest importance to you now, and in the near future will be of importance not only to you, but to countless numbers of your fellow men and women. You will have the lives of your patients in charge, and no human responsibility can be greater than that. The field of medical study overlaps, in part at least, every department of scientific knowledge. Physics, chemistry, botany and zoology you must master in their broader features and in many minute particulars. When you have acquired a sufficient knowledge of these four preliminary and vast subjects you will then proceed to study the structure and functions of the human body. Not much more is known of macroscopic human anatomy than was known fifty years since, but you must study it with far greater precision than until recently was required, for since the inauguration of aseptic surgery by Lister many more regions of the body have come within the scope of operative surgery. Physiology, unlike anatomy, has advanced and is advancing with ever-increasing strides. Thirty years since a man would have been dull who could not have disposed of "Kirkes' Handbook" in a fortnight, but you will find that the nine months you will devote to the subject by no means too long a time for what you have to do. When from anatomy and physiology you have learned much concerning the human body in health you will then proceed to the great and modern science of pathology—a science that, as known to us, has been created in the lifetime of men still living. Pathology will teach you the essential nature of the modifications of structure and function which constitute the basis of disease. Get a firm grip of pathology, and let me tell you there is no institution in the kingdom where the opportunity of doing so is greater than in this hospital and school. At the same time that you are engaged with pathology you will also be engaged in a study of a very different kind. You will be in the class of materia medica and you will be amazed at the number and variety of the substances that are or have been in recent times in use in the treatment of disease. When you have completed attendance on these four great subjects which form the second group of your course of study, you will enter on the final subjects of the curriculum—systematic medicine and surgery in the class-room and clinical medicine and surgery in the wards; and by the new regulations of the Medical Council your fifth year must be entirely clinical and practical. The enormous importance attached to clinical teaching now is in complete contrast to the perfunctory methods of by-past years. You shall not walk the hospital as men of only thirty years since did. They came and went as they pleased and got their certificates by merely writing their name once every two months in the infirmary album. In your fourth year, in addition to systematic medicine and surgery, you will have midwifery and gynæcology and forensic medicine; and in your fifth year, besides ordinary work in the wards, you will have many special departments to attend.

The Royal Infirmary is a hundred years old. When it was opened the Hunters were but recently dead, and the greatest work of the greater of these brothers—that of "Inflammation"—was as a posthumous work not yet published. Their famous nephew—Matthew Baillie—was on the eve of printing his great work on "Morbid Anatomy," the pioneer of so many books on that subject that have come since. The stethoscope was thirty years away in the future, together with the marvellous clinical and pathological observations on pulmonary conditions by its inventor, Laennec. Mediate percussion was thirty-five years in the future. Rude forms of the microscope had been employed by a few, a very few, physiological investigators, but to hospital practice it was as foreign as the telescope. It was not until 1829 that the elder Lister made the microscope achromatic, before which time there was little accuracy in its revelations. Lister's invention was the necessary forerunner of physiological and pathological histology, and eight years afterwards the first important contribution to the subject was made by the publication of the famous paper entitled "Contributions to Phytogenesis," by Schleiden, where, for the first time, was demonstrated the cell structure of plants and the cell shown to be the ultimate rudiment of life. Next year, 1838, the second great step was taken by the publication of Schwann's "Microscopical Researches into the Structure and Growth of Animals and Plants," in which he demonstrated that in animals also the cell is the ultimate unit of life. The application of the cellular theory to pathology necessarily followed, and Goodsir of Edinburgh was the first to direct attention to cell alterations as constituting the fundamental phenomena of disease. Virchow followed in the lines of Goodsir's suggestions, and by the force of his perseverance and genius created for us the pathology of the present day. An early contemporary of Virchow, the late Professor Bennett of Edinburgh did for a time brilliantly oppose the cellular theory of physiology and pathology, and proposed in opposition to it his own molecular theory of organic structure. That did not long engage the attention of histologists; but recently in another form it is again forcing itself into consideration, particularly in recent observations of the changes that occur within cells that are about to divide and multiply.

About the year 1620 Harvey demonstrated the circulation of the blood, but until the time of the Hunters there was little further contribution to the inductive observation of the vital actions and processes in health and disease. John Hunter was the first of the modern school of physiologists and pathologists, but your predecessors in the early years of the Royal Infirmary could form but little idea of the far-reaching consequences of John Hunter's work. Baillie, in his "Morbid Anatomy," tells all that was really known of pulmonary disease up to 1793, and all he has to say could be read in an hour and might be remembered by reading it once. This hospital was twenty-six years old when Laennec was appointed to the Necker Hospital in Paris, and two years thereafter he published his immortal treatise on the "Diseases of the Chest," and for the first time then the students of this hospital began to be taught the broad outlines of pulmonary disease in many respects not greatly different in their clinical aspects from the manner in which you are taught them now. In 1825 his teaching was supplemented by the invention of mediate percussion by Piorry. From that time the advance of knowledge regarding pulmonary disease was not very great until the development of bacteriological research and the discovery of the tubercular bacillus by Koch and the pneumonic micrococcus by Friedlander and others. All our authorities on diseases of the nervous system have been men of the present generation—Brown-Séquard, Duchenne, Erb, Hitzig, Ferrier, Hughlings Jackson, Macewen, Victor Horsley and many others, and most of them are still alive. Before the invention of the stethoscope little was known regarding diseases of the heart. To Laennec again we owe the beginnings of our knowledge of abnormal cardiac conditions, but here he was far less successful in disclosing the secrets of disease than in the case of the lungs. Our cardiac knowledge is derived from many sources. We are perhaps more indebted to the treatise of James Hope, published

in 1832, than to any other source, and it was a great discovery that of Peter Latham, when he first demonstrated in 1826 to the students of St. Bartholomew's Hospital the connexion between rheumatism and peri-endocarditis. If there was one department of disease more than another in which our predecessors might have handed down to us accurate information it was that of the contagious fevers, for they had opportunities of studying these that fortunately for you are now greatly circumscribed. In the early years of the century all great towns were hotbeds of fever, but half of the century was yet to elapse until in 1850 Sir William Jenner finally established the difference between typhus and typhoid. The effect of isolation of contagious fevers has only been carried out effectively within the last two decades.

How vast, then, is the change, development and expansion of our knowledge of disease since the first medical students of the University of Glasgow and the extra-mural teachers in College-street began to study in the wards of the Royal Infirmary. The change entails vastly more work on you, but that I am sure you will not grudge. But here the question arises, Has there been an expansion in our ability to deal with disease at all commensurate to our increased knowledge of the symptoms and pathology of morbid conditions? In surgery beyond all dispute the advance in operative and non-operative treatment has been immense. But in the diseases with which the physician has to cope the answer is much more doubtful. In the first half of the present century one-half of the total expenditure of the Royal Infirmary in the department which supplies to the physicians and surgeons all drugs, agents and appliances of treatment—one-half of the total expenditure—was for leeches. I think it questionable if to-day there are a dozen leeches in the house. Bleeding was then a universal panacea in the treatment of disease in every form. Every doctor carried his lancet and every doctor performed vivisection every day of his life. He bled on his first visit, and the blood drawn was kept for his inspection on his return, and if it had a buffy coat—and it generally had—he bled again. Vivisection, leeching and cupping were in continual use until after the first half of this century had passed away. Besides leeching there was starvation; besides starvation there was mercurialisation; in almost every illness the production of salivation was reckoned necessary. At the beginning of all acute affections emetics were indispensable. Antimony was in daily use, and in such a disease as pneumonia it was continued from beginning to end. Only when the patient was given over as hopeless were feeding and stimulation permissible. No wonder, then, that so many diseases were regarded as dangerous which we now can confidently hope to see cured. Pneumonia in our day is generally amenable to treatment. In the early part of the century the mortality was more than 30 per cent. In this country we are indebted chiefly to Bennett of Edinburgh and Todd of London and Graves of Dublin for our awakening and true estimation of the evil treatment of disease. Graves said "Feed fevers," Bennett, in effect, said "Feed everything," Todd said, "Stimulate everything." In a few years the reaction was in full swing and possibly went a little too far, particularly as regards stimulation, and to no one more than to Gairdner of Glasgow are we indebted for a moderating influence in the use of alcohol in acute disease. We have got rid of emetics. We seldom salivate and we do not use depressants, and the actual cautery and Corrigan's button have no longer a place in the instrument bag of the physician. But if we have ceased to do harm how much good do we accomplish? In the meantime the wise physician gives much scope to the *vis medicatrix naturæ*. He gives his patient rest, he gives strength by judicious feeding and stimulation, he relieves pain, he procures sleep where he may, he lessens cough, he promotes digestion where that is necessary, and, in addition, he attempts to deal, with what success he may, with symptoms as they arise, and as far as he can he endeavours to restore organs to a better performance of their functions. He has an enormous pharmacopœia of drugs at his disposal, but he is chary in his employment of it. The good physician of the present day is most emphatically a student of the action of drugs—I say the good physician, for it is too much the custom so to combine drugs in prescriptions that it is impossible to decide as to the particular action of any one of them. Every year some new drugs are brought under the notice of the profession with a certainty of statement regarding their use which is most captivating, and every year almost as many recent remedies cease to be used by the profession. The very aptness of the profession to employ new remedies on the most slender basis of fact demonstrates the unsatisfactory condition of drug-giving as a whole.

What the profession at large has yet to study is the natural history of disease—the course of a disease when no drugs are used. Fortunately we now know that well in so far as acute diseases are concerned, but we know it far less well when the course is chronic. In acute disease few drugs are given, and they are chiefly given as tonics or stimulants; but in chronic affections the physician is apt to ring the changes through a great part of the pharmacopœia. In acute diseases he trusts to the *vis medicatrix naturæ*; he rests, feeds and stimulates his patient according to the condition of his general strength. In chronic disease he drugs his patient, and often with results that are unsatisfactory. And yet in many instances chronic disease differs from acute disease only as regards the time occupied by the processes of structure and function. Nature tends to stability of type and structure.

Few physicians now alive deserve greater honour than Sir George Johnson. He has devoted a long life and a powerful mind to the study of diseases of the kidney, and particularly its chronic diseases, and he is now able to tell us that many forms of these chronic diseases are amenable to treatment. How general is the impression that fatty cells and casts appearing in the urine necessarily mean incurable disease of the kidney; and yet Sir George Johnson has shown that a patient may have albumen in large amount, anasarca and dropsy and fatty cells and casts, even, for years, and yet that there is possibility of cure. How does Sir George Johnson treat the case. Merely by rest and a milk diet; and that in the firm belief that just as the racehorse and drayhorse of Darwin will, in the absence of the circumstances that have produced their special features, and with sufficient time, revert to the original type, so will the cells and tubes of the diseased kidney revert to their original type and structure in the prolonged absence of the causes which brought about a departure from normal type and structure. For many years to come the practice of medicine must be experimental, and the more you deal with it inductively and the less you deal with it deductively the better. It is by observation and experiment that we have arrived at our present position, and it is only by observation and experiment that we shall make further advances.

In all times the human mind has associated great deeds with the localities where these great deeds were achieved. The spot on which we have now assembled and its neighbourhood have for many centuries been distinguished for achievements many of which have influenced the whole life of the country and some that have profoundly affected the whole civilised world. Three movements of world-wide influence began within the walls of, or in direct connexion with, the University of Glasgow. The first of these was the inauguration of popular scientific and technical education by Professor Anderson about 1758. He invited the mechanics of Glasgow to attend the experimental lectures in his course of Natural Philosophy, he admitted them without fee, and not only did he open his doors to them, but he visited their workshops and specially invited them to attend; and that this work of popular scientific instruction might not come to an end with his life he bequeathed his apparatus, library and his money to found a college expressly for the purpose of continuing it. Anderson's College, both directly and indirectly, has more than fulfilled the expectations of its founder. The second event of world-wide importance that occurred in the old college was the invention of the condensing steam engine by Watt in 1765, an invention that has revolutionised the life of mankind. The early development of this invention, that has placed at the disposal of man the material wealth and resources of the earth, ran concurrently with the working out of the third great contribution of world-wide importance by a Glasgow professor—the "Wealth of Nations," by Adam Smith. Watt gave to the world manufactures and commerce; Smith laid down the principles on which these were to be regulated and worked between individual and individual, between class and class, between nation and nation. It was in the year when the first perfected engine left the Soho Works of Boulton and Watt at Birmingham that Adam Smith's book was published. The coincidence was marvellous. From standpoints of thought far distant from each other the two men laboured, but what the one did was the complement of what the other did. Their combined work began a new era in the world, and the one was mechanist to the college, and the other was its professor of moral philosophy. If the shade of Pope Nicholas can revisit the world he may bemoan

the suppression of the archiepiscopal see, but certainly he will not regret the survival of his "Studium Generale."

After the line of archbishops came to an end the great castle they had occupied fell gradually into decay. In its courtyards children played, and in one of them a booth was erected where the first theatrical performances in Glasgow took place. But somewhat more than a hundred years since the ruins were removed to make way for the erection of the Royal Infirmary. The site where for many centuries the spiritual wants of the community had received consideration and care was now to be devoted to the treatment of their physical infirmities. Although more lowly in station the physicians and surgeons of the Royal Infirmary have been on the whole fitting successors to the ancient bishops. At first a hospital for eighty patients, the Royal Infirmary now accommodates 586, and soon provision must be made for more. Since its foundation many thousands of students have received clinical teaching in its wards. In every county in the kingdom, in every country in the world, you can meet members of the profession who studied in the Royal Infirmary. In the century that has elapsed since the building of the hospital its staff has contributed much to the advancement of medicine and surgery. Dr. Andrew Buchanan first demonstrated in these wards the causes of the coagulation of the blood and first introduced the operations of plastic surgery. The late Dr. Perry did much to prepare the way for the final differentiation between typhus and typhoid fever by Sir William Jenner. Dr. Morton here first performed his glycero-iodine injections in spina bifida. Mr. Macewen here first attempted his operations of osteotomy, his transplantation of bone and his work in cerebral surgery; and in the Royal Infirmary Professor Lister inaugurated the methods of aseptic surgery, the greatest contribution to surgery by far that has been made in the nineteenth century.

I have in brief compass placed before you the great work that has been carried on for so many centuries in the locality in which we are met to-day, where you also for a few years are to do your work. The *genius loci* appeals to you as it has done to so many generations of scholars in the past. The old college left the classic neighbourhood of the cathedral: St. Mungo's College takes its place. Will the new college carry on the splendid traditions of enterprise and achievement with which its site is associated? That question the future alone can answer, but the answer will to some extent depend on you.

AN ANALYSIS OF

TEN THOUSAND CASES OF DISEASE OR DISTURBANCE OF THE EYES, SEEN IN PRIVATE PRACTICE:

WITH NOTES AND COMMENTS.

BY R. BRUDENELL CARTER, F.R.C.S. ENG.,
OPHTHALMIC SURGEON TO ST. GEORGE'S HOSPITAL.

INTRODUCTORY.

I PURPOSE to bring to the notice of the profession something which may be called a statistical view of the private practice of an ophthalmic specialist in London, followed by such comments as groups of cases may suggest. Existing ophthalmic statistics, in so far as I am acquainted with them, have either been limited to particular diseases or have been derived from hospital sources; and in the latter case they bear very little resemblance to those which would be furnished by the work of a private practitioner. In his consulting room, cases which might be described as comparatively trivial will always be found in considerable numbers; partly, perhaps, because the wealthy classes are more sensitive to mere discomfort than the poor, partly because the occupations of the educated are more likely to produce such discomfort than those of the uneducated, and partly on account of greater leisure and better opportunities of seeking relief. I have for some years kept note-books with sufficient fulness to record all important particulars about my patients; and it occurred to me that by going back over these books until a sufficient number of cases had been reached it would be in my power to obtain considerable information on points concerning some of which I had only impressions, possibly not always correct. The number decided upon for this purpose was 10,000, and it was an essential part of my scheme to include all the cases which had presented themselves, whether trivial or severe, without selection. Three classes only have been omitted—boys or young men who were brought to me because their parents wished to ascertain whether they were eligible, as far as sight was concerned, for some particular calling, as the army or navy, and whose eyes were perfectly healthy; patients who consulted me on account of headaches, supposed to be ocular, but for which I could not discover any ocular explanation; and a few, perhaps a hundred in all, about whom for any reason my notes did not contain sufficient information. With these exceptions, I have gone straight backwards through my books from April, 1891, until the required number was reached, and have included everything which has come before me. For the purposes of comment or illustration I shall feel at liberty sometimes to refer to cases treated during the last eighteen months, but none of these will be included in the actual numbers recorded.

Of the 10,000 persons from whom my figures have been derived, 4621 were males and 5379 were females. According to the census of 1891 the females in England and Wales are to the males nearly as 149 to 140; so that the proportion of females corresponding to 4621 males would be 4860. Apart, therefore, from the numbers of each sex in the population, there has been a distinct preponderance of women and girls among my patients; but this circumstance cannot be entirely attributed to any special proclivity on the part of the female sex to any single form of eye disease. There is, as I shall hereafter show, such a special proclivity in relation to senile cataract; but the figures which express it are not large enough to account for the whole of the feminine preponderance. I should be inclined to refer it to the greater sensitiveness of the female sex, to the more sedulous employment of their eyes over a variety of sedentary occupations, and to their weaker muscles, which are less able, as a rule, than those of men, to maintain prolonged efforts of accommodation or of convergence.

When the cases are classified according to the shape of the eyeball the various forms are found to bear the following proportions:—

	Males.	Females.	Total.
Emmetropia	2123	2318	4441
Myopia, including simple and compound myopic astigmatism	1464	1684	3148
Hypermetropia, including simple and compound hypermetropic astigmatism	995	1328	2323
Mixed astigmatism	39	49	88
Totals	4621	5379	10,000

The cases of astigmatism amounted to 1412 (630 males and 782 females), of which 805 (369 males and 436 females) were of the myopic form; 519 (222 males and 297 females) of the hypermetropic form; and, as shown above, 88 (39 males and 49 females) were of mixed form. Among the last, mixed astigmatism, properly so called, was present in both eyes in 48 cases; in one eye, variously combined with other conditions of refraction in the other, in 30 cases; and the remaining 10 cases were not strictly mixed astigmatism, but presented nearly as many combinations of different forms, such as simple myopic astigmatism in one eye with compound hypermetropic astigmatism in the other, the details of which, in consideration of the smallness of the numbers, it would fulfil no useful purpose to specify.

In estimating the prevalence of disease among the 10,000 patients it must be remembered that the subjects of myopia, of hypermetropia, and of astigmatism, are often compelled to seek aid merely on account of the existence of these malformations, and of the difficulties which they place in the way of the continuous employment of the eyes; while the emmetropic persons, apart from disease, require aid on account of presbyopia only, for which, moreover, they are frequently content to use spectacles supplied to them by dealers. The cases of myopia and hypermetropia, on this account, present a smaller proportion of disease than the cases of emmetropia; and I find that 2347 cases of myopia and 1656 of hypermetropia are recorded as uncomplicated, while disease existed in 801 of the former and in 667 of the latter. The proportion borne by each form of disease to the total number of persons must therefore be reckoned upon a total of only 6000, or exactly 5997, instead of upon 10,000; but, on the other hand, a large number of patients will appear under more than one heading—as, for example, in the instance of one who was suffering from iritis or from episcleritis, and whose lenses presented indi-

cations of commencing cataract. Some patients will even find place under more than two headings; so that the gross total will be made to appear larger than the number of persons from whom the figures were obtained. In classifying the observed conditions I have followed the table given by Cohn in Eulenburg's Encyclopædia; and, apart from the 4003 persons with simple myopia or hypermetropia, I have recorded—

Affections of the conjunctiva	in	879 persons
" " cornea	in	492 "
" " sclera	in	20 "
" " iris	in	262 "
" " choroid	in	145 "
Glaucoma	in	176 "
Affections of the retina and optic nerve, including amblyopia and amaurosis	in	871 "
Affections of the lens	in	933 "
" " vitreous	in	164 "
" " globe	in	115 "
Affections of refraction and accommodation	in	2431 "
Affections of the muscles	in	542 "
" " fifth nerve	in	18 "
" " lacrymal apparatus	in	159 "
" " orbit	in	14 "
" " lids	in	349 "
Various	in	97 "
Total		7667

The sum total of recorded affections, therefore (among which, although it is only a senile change, I have thought it convenient to include presbyopia), has amounted to 7667 in the 5997 persons; or, in other words, nearly 30 per cent. of these have admitted of being ranged under more than a single head. This percentage has been largely composed of the numerous cases in which presbyopia has existed in combination with commencing cataract, and of those, even more numerous, in which chronic congestion of the conjunctiva has been produced and maintained by other morbid conditions, or by the fatiguing efforts incidental to defective strength or tonicity of the ocular muscles.

In this and the following papers of the series I purpose to take the more important of the above-mentioned groups in succession and to illustrate such remarks as I may venture to make by the citation of any cases which appear to be of sufficient importance for the purpose.

AFFECTIONS OF THE CONJUNCTIVA.

The total number of affections of the conjunctiva amounted to 879, of which 437 occurred in males and 442 in females. The cases were as follows:—

	Males.	Females.	Total.
Acute (catarrhal conjunctivitis	82	47	129
Acute (purulent) conjunctivitis	15	8	23
Chronic conjunctivitis	272	323	595
Follicular granulations	25	33	58
Gouty concretions	4	3	7
Fatty growths	18	15	33
Subconjunctival hæmorrhage	3	7	10
Conjunctival hypertophy	2	0	2
Dermoid or warty growths	2	2	4
Pterygium	6	2	8
Conjunctival cysts	1	2	3
Epithelioma	5	0	5
Nævoid patches	1	0	1
Lacerated wound	1	0	1
Totals	437	442	879

The cases of acute (catarrhal) conjunctivitis were mostly of no great importance or severity, and included—besides those which were attributed, possibly for want of better knowledge, to cold or to atmospheric influences—some which were produced by the direct application of irritants. In several of these the irritant was a dense and sulphur-bearing London fog; in two it was chrysophanic acid, which had been applied as a remedy for some form of skin disease, and had accidentally found entrance into the conjunctival sac. Perhaps the point most worthy of notice in conjunctivitis is the very complete manner in which the use of nitrate of silver as a curative local application may be said to have been rehabilitated by the introduction of cocaine. Those who remember the Guthrie school of ophthalmic practice will remember that the nitrate, often in solutions or ointments of considerable strength, was regarded almost as a specific for many superficial ocular affections; and that it fell into comparative disuse chiefly on account of the pain attending its employment. By the use of cocaine, however, this objection may be completely removed; and I am accustomed, in all cases of acute, and in many cases of chronic, conjunctivitis of the catarrhal type, to apply cocaine first, generally in the form of a wafer containing the fiftieth of a grain, but sometimes by a drop or two of a 10 per cent. solution; and, when this has had time to act—a time ranging from ten to twenty minutes—to paint the inflamed portions of the insensitive conjunctiva with a solution of nitrate—generally of five grains to the ounce, sometimes stronger—by means of a camel's-hair pencil barely moistened with it, so that it is only applied to the portions of membrane which the pencil actually touches. In cases of no great severity a single application of this kind, followed every four hours by the instillation of a drop of a solution containing two grains of cocaine and four of boric acid to the ounce of water, will generally be sufficient; but it will sometimes be necessary to repeat the nitrate daily or on alternate days for a short period of time. The use of the cocaine is not only attended by the advantage of rendering that of the nitrate painless, but it also limits the action of the latter to the parts actually touched by the brush. The absence of pain prevents lacrymation, and there is then nothing to cause the solution to be diffused over the conjunctiva or cornea. Even for adults the complete absence of pain is a strong recommendation of the method; but in children it renders the use of the nitrate absolutely unobjectionable, and thus restores to ophthalmologists what is, in my judgment, by very far the best and most efficacious of the so-called astringents.

The twenty-three cases of acute purulent conjunctivitis were mostly infantile. One of the exceptions was caused by accidental inoculation from an infant, and resulted in the loss of one eye of the patient, a young lady of twenty; while three cases were complications of diphtheria, all ending badly. I should perhaps include in this category a very remarkable instance in which I did not see the patient until long after the acute stage, and in which I was only consulted with reference to the propriety of endeavouring to reduce, by operation, the prominence of the staphylomatous corneæ. The patient was the child of parents in good position, and the eyes were clearly described as having been quite healthy up to the age of fourteen days, when they became a little injected. It is therefore quite certain that the case was not one of ordinary ophthalmia neonatorum. The monthly nurse did not think the redness of the eyes sufficiently important to require the care of the doctor in attendance, and she proceeded to bathe them with milk, taking for the purpose a portion of the ordinary family supply. They speedily became intensely inflamed, with swollen lids and profuse discharge, and ultimately both corneæ perished. With our recent knowledge of the part played by milk in the diffusion of diphtheria I cannot but think it likely that in this case the milk was infected by the diphtheritic poison, perhaps not in sufficient intensity to affect any healthy persons who swallowed it, but in a way which produced the specific disease in conjunctivæ rendered vulnerable by the prior existence of slight catarrhal inflammation. It seems to me that the case affords a striking illustration of the dangers which may attend the use of milk; and that it should not be forgotten by those who undertake the duty of instructing midwives and nurses. In some of the midland counties of England the maternal urine was formerly a favourite domestic remedy for infantile purulent ophthalmia, and has no doubt been answerable for the destruction of hundreds of corneæ; but it requires only a little reflection to show that the use of milk, still a favourite application among ignorant people in many circumstances, may be fraught with many possibilities of danger.

The cases of infantile purulent ophthalmia were all seen in consultation when the disease was fully established, but they all terminated in complete recovery if seen while the corneæ were still bright. They were numerous enough to acquaint me with a very dangerous modern practice, that of treating such cases with solutions of perchloride of mercury, a plan which I do not hesitate to say is calculated to bring about the loss of many eyes which ought never to have been endangered. I believe it is adopted as the result of devout faith in three unproved hypotheses: first, that ophthalmia neonatorum is produced by the presence of certain bacteria in the conjunctiva; secondly, that to destroy these bacteria will be to cure the disease; thirdly, that perchloride of mercury is the best bactericide for the purpose. Clinical experience forbids me to accept the whole of these hypotheses. If the first and second be true, the third is certainly erroneous; and if the first and third be true, the second is at least doubtful. Before bacteria were ever heard of we knew how to cure ophthalmia neonatorum with absolute certainty, and the proper treatment is as efficacious now as it was then. My own first infor-

mation on the subject was derived from the "Lectures on the Principles and Practice of Physic" of the late Sir Thomas Watson, and I will quote from the first edition of these lectures, published in 1843. He says: "Purulent ophthalmia, as it occurs in newly born children, is a very common disease. It is very serious when neglected; it is very easily managed when it is seen and treated in time. ..... The disease may continue for eight or ten days without any affection of the transparent parts, and so long as these remain uninjured the eye is safe, provided that proper treatment be adopted." After an admirable description of the symptoms Sir Thomas Watson directs the use of a solution of four grains of alum in an ounce of water, and adds that the results of this method have been so entirely and uniformly satisfactory that he would never think of employing any other, although if the eye became insensitive to the stimulus of the alum a solution of nitrate of silver, of a strength ranging from one to four grains to the ounce, might be substituted with advantage. He also cites the experience at Moorfields of the late Sir William Lawrence as being absolutely in accordance with his own.

Forty years ago, when antiseptics were unknown in midwifery, and when the maternal secretions were scarcely suspected to be the ordinary cause of infantile ophthalmia, the disease was, as Sir Thomas Watson wrote, "very common," and it so befel that I had frequent opportunities of observing and of treating it. I thought it best to use a two-grain solution of nitrate of silver from the first, its action appearing to me to be more rapid, if not more certain, than that of the alum. The disease is now, fortunately, rare among the richer classes, but in the forty years I have no doubt seen many hundreds of cases, and I can most emphatically endorse Sir Thomas Watson's statement that the eye is safe as long as the cornea remains bright, provided that proper treatment be adopted. In the general term "proper treatment" I should include the effectual application of the silver or alum drops with sufficient frequency, at first usually every four hours, the purulent secretion being first removed by gentle irrigation with warm water and then the superfluous moisture absorbed by means of a soft rag. The edges of the lid should at the same time be prevented from adhering by the application of any simple ointment, and then the eyes will rapidly get well. I have not seen one single case in which the eye sustained injury when this treatment was adopted while the cornea was still bright; but I have seen several—comparatively lately—in which one or both corneæ had become cloudy, or had even ulcerated, under the use of a perchloride of mercury lotion, and I have not always been in time to prevent the occurrence of destructive mischief. It may be that nitrate of silver is a better bactericide than perchloride of mercury—I cannot tell; but of this at least I am certain, that the former will invariably cure infantile ophthalmia and that the latter will frequently fail to do so. Fortunately the habitual use of antiseptics in parturition has greatly diminished the frequency of the disease; but I can have no doubt that, if it were still as frequent as formerly, it would, under the treatment now too often practised, be far more destructive than it was when the precepts of Sir Thomas Watson were fresh in the recollection of practitioners.

I have lately seen a case which is perhaps worthy of being placed on record, and in which the appearances of purulent ophthalmia were curiously imitated. The patient was a little girl seven years of age, who was brought to me from the country on a certain Tuesday. The history was that on the previous Friday morning she was in her nursery playing with a sponge while she waited her turn for a bath. Something, it was supposed from the sponge, was said to have "squirted" into her left eye, which soon became painful, and the family medical man was sent for. He prescribed some lotion, probably containing cocaine, for it gave relief, which was speedy, but only temporary. On the next day the eye was worse, and the doctor is said to have everted the upper lid with some difficulty, but to have found nothing to explain the symptoms, which increased in severity day by day in spite of I know not what lotions and other treatment, the doctor himself not having made any communication to me. On the Tuesday morning I found the lids much swollen and a copious purulent discharge exuding from them. Partly on account of the swelling, and partly owing to the local tenderness and the fear and resistance of the patient, I was unable to see the cornea, so that I found it necessary to bring the child under the influence of chloroform. When this was done I lifted the upper lid and removed from beneath it a piece of sponge of considerable size. The cornea was uninjured. As soon as the child recovered consciousness I said to her, "There was a piece of sponge in your eye." "Yes," she answered. "I put it there." This was her first confession, and none of the people about her had the least suspicion of the state of affairs. Some simple application was prescribed, and the conjunctiva speedily recovered from the irritation to which it had been subjected.

Chronic conjunctivitis.—The cases of chronic conjunctivitis—595 in number—include all those in which some surface irritation was associated with defective endurance of the ocular muscles, or with troubles arising from abnormal refraction or accommodation. Whenever under any of these conditions the patient is conscious of difficulties in working with the eyes it is very common to find the portion of the conjunctiva which lines the lower lid flushed and somewhat swollen, or studded with hypertrophied papillæ more or less numerous. The retro-tarsal folds often quite bulge out when the lower lid is drawn down and everted, and the veins which traverse the surface are often tortuous and distended. Gritty sensations will be described as consequences of even a very moderate use of the eyes upon any kind of near work, such as reading, or drawing or needlework, and there will be a general consciousness of the possession of the organs such as ought not to exist with regard to any part of the healthy human body. In these conditions it is common to find some demand for unusual or abnormal muscular effort in using the eyes over near occupations, and the people who suffer are usually those who write or read continuously, or who are engaged in other fine work, such as drawing or painting, which requires to be brought very near to the eyes. Often there will be need for spectacles, or those in use will be inadequate or in misfitting frames, which latter are fertile sources of discomfort. In such conditions we shall usually find that lotions alone are useless, and that better spectacles relieve without curing the conditions. It is usually necessary to combine both agencies: to place the eyes optically in the most favourable circumstances for their work, and then to use such astringents as occasion may require. In mild cases my first prescription is usually a drop of a solution of sulphate of zinc of the strength of two grains to the ounce, to be applied at bedtime, and a drop of a solution containing two grains of cocaine and four grains of boric acid to the ounce, to be applied twice a day, the lower lid being drawn down as completely as possible, so that either liquid has free access to the retro-tarsal fold. In cases of greater severity the application of a solution of nitrate of silver to the previously cocainised conjunctiva, in the way already described under the heading "acute catarrhal conjunctivitis," will often expedite the cure, and may be repeated twice or thrice according to circumstances or to the severity or obstinacy of the case. And, as a rule, it may be safely said, in these conditions, that appropriate glasses will be insufficient without astringents, and that astringents will be useless without glasses.

As a pendant to the case in which acute conjunctivitis was produced by the presence of a piece of sponge, I may mention one of a chronic character which was brought to me as having resisted treatment. On everting the upper lid of the affected eye I had the good fortune to obtain a glimpse of some foreign body, high up under the retro-tarsal fold, and presently succeeded in removing an end of sewing cotton rather more than half an inch in length, which was occupying a horizontal position quite above the cornea. The patient was a young lady, from whom no admissions were to be obtained, but, some months later, she returned in a similar condition and another piece of cotton was removed. In a general way foreign bodies in the conjunctival sac, especially when in their most common position, just above and within the margin of the upper lid, act chiefly by the irritation of the corneal surface. The effects which they produce will be best considered when the affections of the cornea come under review.

Follicular granulations.—In the chronic cases last referred to it is not uncommon to hear the somewhat hypertrophied papillæ of the lid linings described as "granulations," but such an employment of the word is very misleading; it should be reserved for a much less common condition, of which, as will be seen from the figures given above, only fifty-eight examples came before me among the ten thousand patients. In these the retro-tarsal folds, especially those of the lower lids, were studded with semi-transparent lumps, which have been likened by imaginative people to boiled sago grains. These lumps are strictly analo-

gous to enlarged lymph glands; and in some persons they give rise to great irritation. They are extremely intractable to astringent applications, and to destroy them with any kind of caustic leaves a hard cicatrix which may in itself be an abiding cause of trouble. For several years it has been my practice to crush them with forceps as a means of causing them to be absorbed, but quite lately I have been made acquainted with a still better method devised by Dr. Knapp—that of squeezing them between roller forceps, by which means the whole of the contained substance is forced out without any appreciable solution of continuity of the conjunctiva, and the subconjunctival tissue is completely freed from the morbid material. The operation, although short, is painful, and the patient should be brought under chloroform or ether. A large fold of the affected conjunctiva is pinched up with ordinary forceps and then grasped between the blades of the special forceps, which are made to compress it firmly as they are drawn off. A quantity of pulpy matter and blood is pressed out, and the proceeding must be repeated until every affected portion of the membrane has been emptied of the growths. The lids will be a little tender for a day or two, but even from the first the relief to the patient is considerable, and I have not yet seen any reproduction of the material. The special forceps terminate in portions which may be compared to stirrup irons, and the cross-piece corresponding to that on which the foot rests in a stirrup is a steel cylinder which revolves freely upon an axis. The most convenient length for this cylinder is about half an inch, and it is essential that the instrument as a whole should be strongly made and capable of subjecting the tissues which it holds to firm pressure.

Gouty concretions of the conjunctiva form an affection about which there is little to be said. They appear to be composed of the same material as ordinary chalkstones, and can be easily turned out of the tissues by the point of a cutting needle or cataract knife, cocaine being first applied. As a rule, however, they are well covered by the conjunctival epithelium, and produce less irritation than their appearance would at first lead one to expect.

Fatty growths of the conjunctiva are only an exaggeration of a normal condition. In nearly all persons, as middle age is reached, a slight deposit of fat may be observed among the interstices of the subconjunctival tissue; and this deposit, when it is formed in more than usual quantity, becomes forced into the horizontal line by the pressure and closure of the lids, and often projects in the form of a little yellow prominence on either side of the cornea. These prominences are absolutely harmless and unimportant, but I have seen them attain such magnitude as to become pedunculated where they were nipped between the lids. Moreover, they are often attended by an increased development of the conjunctival vessels; and partly on this account and partly owing to their colour and occasional prominence they may easily become somewhat unsightly. If their removal is desirable for cosmetic reasons, they may be pinched up with ordinary fixation forceps, and cut off with scissors, cocaine being first applied. The conjunctiva should then be undermined along the upper and lower edges of the wound, and these drawn together by one or two threads of very fine suture, which may be removed on the following day. When the vascularity which immediately follows the healing has subsided, the cicatrix will be invisible, and it will at the same time produce so close a union between the conjunctiva and the sclera that no fresh accumulation of fat is to be looked for.

Subconjunctival hæmorrhage, apart from the causes from which it occurs, may be regarded as a trivial affection. A small vessel may easily be ruptured by a slight blow or by severe coughing, or by the straining of parturition. When no manifest cause of the rupture is discoverable it may be of somewhat grave significance. In advancing life it may point to brittleness of the bloodvessels generally, and may be the precursor of intra-cranial hæmorrhage; and in youth I have twice seen it produced by nocturnal and previously unsuspected epilepsy. Looked at as an isolated occurrence it is unimportant. The effused blood will be quickly absorbed, and although the feelings of the patient will usually be soothed by the application of a lotion, I have no reason to believe that absorption will be thereby promoted.

The remaining conjunctival affections, which, as the figures will show, are comparatively seldom met with, do not appear to call for any special remark, either as regards causation or treatment.

(To be continued.)

A MODIFICATION OF THE OPERATION FOR THE DIVISION OF THE SUPERIOR MAXILLARY NERVE.

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ALTHOUGH the methods of operation that have been devised for neurectomy of the second division of the fifth are numerous, I fail to find one which seems to me free from one or more of the following essential conditions to be fulfilled in order to constitute an operation which, at the same time that it gives the operator a clear view of the structure he is seeking, entails the least possible structural damage and disfigurement to the patient with the most complete relief from his symptoms. (1) A well exposed situation for incision; (2) non-implication of important structures or organs, such as the orbit or eyeball; (3) good anatomical landmarks; (4) avoidance of bleeding or oozing; (5) free access to the nerve trunk; (6) practicability of removal close to the foramen rotundum; (7) the least possible disfigurement or loss of function afterwards. The first and seventh of these conditions limit the choice of the seat of operation to either the cheek or zygomatic fossa, but the performance of the operation through the infra-orbital foramen and canal is in opposition to the second, third, fourth, fifth and sixth; whereas a carefully planned opera-

A, Zygoma. B, Masseter. C, Temporal. D, Posterior surface of superior maxilla. E, Pterygoid. F, Superior maxillary nerve.

tion through the zygomatic fossa fulfils all the conditions. In the operation through the antrum the oozing is very free, and the area of operation necessarily so extremely limited, especially at the far end of the funnel-shaped tunnel made by the trephine, that the view of the parts sought for is most imperfect and obscure. In the operation about to be described through the zygomatic fossa there is practically no bleeding, but there is plenty of room for work and a good view of the nerve in its course from the foramen rotundum to the infra-orbital canal, and the whole of that portion of the nerve lying between these two points can be readily excised.

In April of this year H. W——, aged fifty-six, was transferred to my care at the Nottingham General Hospital suffering from severe and sudden seizures of neuralgia. He had been subject to the attacks for about seven years, and in this period every conceivable form of treatment, including the

extraction of all his teeth, had been adopted without any benefit. His attacks of pain commenced quite suddenly in the region of the right upper canine, gradually extending over an increasing area until the whole of the second division was involved. The paroxysm having lasted a minute or more, as suddenly left him. He had many attacks in the twenty-four hours. He earnestly asked for relief by operation. On April 26th a vertical incision was made over the broad base of the zygomatic process of the malar bone about two inches long; another parallel to this over the zygoma, just in front of the temporo-maxillary articulation. These were joined about an inch above the zygoma by a horizontal incision and the flap reflected downwards. The temporal fascia was now divided along the border of the zygoma and the bone sawn through as close as possible to the frontal process of the malar bone anteriorly and the temporo-maxillary articulation posteriorly. This fragment was turned down with the attached masseter. A director was passed under the temporal muscle, its fibres divided close to the coronoid process, and the belly of the muscle turned up with the temporal fascia. The fat filling in the temporal fossa, the pterygoid muscles and the internal maxillary artery were exposed. With a slender blunt raspatory a dissection was made along the posterior surface of the superior maxilla until the prominent spine at the corner of the pterygoid ridge was distinctly felt by the left finger. Internal to this the superior maxillary nerve running from the foramen rotundum to the infra-orbital foramen was easily caught on a strabismus hook. The nerve was now drawn upon anteriorly and divided as close as possible to the foramen rotundum. Traction was made posteriorly and the nerve again divided close up to the infra-orbital foramen and removed. There was no bleeding and the various structures were clearly visible. The deep temporal artery was tied in two places and divided, as it lay exposed in the wound, as a precautionary measure; but I cannot say that it was absolutely necessary. The parts were now replaced and a drainage-tube inserted. The zygoma was wired at each end with silver and the flap of skin replaced. The patient made an excellent recovery and has been entirely free from pain since. He has a firm zygomatic arch and can bite as hard and as firmly as ever. There is no disfigurement except the slight scar. He can use well his temporal and masseter muscles. The chief points to be observed in the performance of this operation are: (1) The division of the zygoma as anteriorly as possible, the masseter to be left attached to the zygoma; (2) the division of the temporal muscle instead of the coronoid process of the jaw; (3) the subsequent use only of blunt instruments in separating the tissues. By these means hæmorrhage is prevented and the various steps of the operation clearly seen.

Nottingham.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se compare.—MORGAGNI *De Sed. et Caus. Morb.*, **lib. iv. Proœmium.**

METROPOLITAN HOSPITAL.

COMPOUND DEPRESSED FRACTURE OF THE SKULL; TREPHINING; REPLANTATION OF BONE; COMPLETE CLOSURE OF THE WOUND; RECOVERY.

(Under the care of Mr. WALSHAM.)

IN THE LANCET of May 28th, 1892, reported by Dr. C. F. Marshall, the then senior house surgeon, we published a case of compound depressed fracture with replantation of bone, and immediate and complete closure of the wound, that had recently been under the care of Mr. Walsham in the Metropolitan Hospital. The present is an almost identical case, differing only in that the child was a year older and that the trephine had to be applied before the depressed bone could be raised. In this as in the former case the edges of the wound were refreshed before the sutures were inserted, the wound was accurately closed without the employment of any drain and the fragments of bone that had been removed replaced. At the first dressing the wound was found to have healed by the first intention. In some editorial remarks on the former case special attention was drawn to the entire closure of the wound at the completion of the operation without employment of a drain. "This case of compound depressed fracture," we said, "offers a very great contrast as regards treatment to the method of procedure which is usually practised for these injuries, and it is obvious from the description that the number of patients in whom it can be carried out with safety is a limited one." It is obvious that it belongs to a different group from the others mentioned in Mr. Walsham's remarks, for, as we pointed out in the former case, the infliction of the wound is in no way under the control of the surgeon in the compound fracture, and there is a great possibility that it is already infected beyond hope of remedy. It is interesting to note that this case resembles some others which were brought before the Medical Society last session by Mr. J. H. Morgan and Mr. W. H. Battle, in that the patients were children and the bone was healthy and vascular. We are indebted for the notes of the case to Mr. Fraser, senior house surgeon.

C. H——, a girl of nine, was admitted to the Metropolitan Hospital at 11 P.M., June 4th, 1892, with a compound depressed fracture of the vault of the skull caused by a blow with the iron bar of a swing. The wound was about two inches long and situated over the right upper frontal region. The scalp was much bruised and the skin ingrained with dirt. At the bottom of the wound the bone was felt depressed about half an inch below the surface of the skull over a circular area the size of a halfpenny. There were no cerebral symptoms. The wound was temporarily cleansed and dressed. On Mr. Walsham's arrival at the hospital the scalp was shaved for five inches around the wound, washed and scrubbed with soap and water and a stiff brush, all grease removed with turpentine, again washed with clean water, and finally with perchloride of mercury (1 in 2000). The wound itself was next carefully cleansed, all hair that had escaped in shaving the scalp removed, and ragged and dirt-ingrained portions of tissue carefully excised. The wound was then prolonged, a flap of the scalp turned up and protected, and as the depressed bone could not be raised a medium-sized trephine was applied over the outer edge of the depression and the depressed fragments removed. These were placed in hot perchloride solution (1 in 4000). The dura mater was not injured. The fragments of bone were next replaced with their smooth surfaces towards the dura mater, but the periosteum could not be brought over them, a large piece having been torn away. The bruised edges of the scalp having been cut off all round the wound, the flaps were brought accurately together with silk sutures. No drain was employed. The wound was dressed with moist sal alembroth gauze and wool, and firm pressure applied over the whole vault of the skull. The child was given ten grains of calomel at once and kept on slop diet for a week; she had no bad symptoms. On June 13th the wound was dressed for the first time and found completely healed by the first intention. A fluctuating swelling was felt beneath the scalp over the situation of the wound, but was not touched. On the 16th the wound was again drained and the stitches removed. On July 18th the child was discharged; the fluid swelling had completely disappeared and the skull at the seat of fracture was firmly consolidated. She was kept under observation in the hospital for over a month, but she was practically well at the end of ten days from the injury.

Remarks by Mr. WALSHAM.—This makes the sixth case recently under my charge in which I have completely closed the wound without drain after operation on the skull. In all, union by the first intention has practically been the result. In two of the cases (those at present under review) the operation consisted in the removal of depressed and loose fragments of the cranium. In three the operation was that of craniectomy, and in the remaining case trephining for loss of memory. With the exception of the last case, a man aged thirty, the patients were children. In the craniectomies and the case of trephining for loss of memory the bone was of course not replaced. Thus there is a series of six consecutive operations on five patients (one of the craniectomies having had a strip five or six inches long removed at an interval of a month from either side of the head) in which success attended the complete closure of the wound. To attain this end the greatest care and attention to detail are no doubt necessary. In the first

place, it is obvious the wound must be rendered absolutely aseptic. Thus in both the cases of compound fracture the scalp was shaved for at least five inches around the wound. It was then washed with soap and water and scrubbed with a brush, next washed with turpentine, and then with perchloride of mercury solution (1 in 500). When the toilet of the scalp was completed the wound next received attention; the edges were especially looked to; any short hairs that had escaped when shaving the scalp were removed, all dirt was scrupulously washed away, loose tags of bruised and lacerated tissue cut off close with curved scissors and the dirt-ingrained tissue dissected off. Finally, the skull was irrigated with perchloride lotion (1 in 2000). All this of course takes time; indeed, fully three-quarters of an hour was thus spent before beginning the operation; but the time was saved in the end, for nothing further, after the wound was once closed, was called for till it had healed. Perhaps one of the most important points to ensure immediate union is to completely cut away the edges of the original wound in the scalp, and this is best done last thing before applying the sutures, as then no further injury of the soft tissues is received by the use of retractors or forceps or by handling. Indeed, all injury of this kind should be carefully avoided by enlarging the original wound considerably, turning back large flaps of the scalp and protecting them whilst thus reflected by soft, moist compresses of warm lint so arranged as, when once placed in position, to allow free room for manipulation on the bone; the edges need not be again touched till the operation is complete. Any wound of the dura mater should be closed by fine aseptic silk sutures, so as to cut off as quickly as possible communication between the subdural space and the wound. It appears probable that when the serous surfaces of the dura mater are brought into contact healing occurs as rapidly as in the case of the peritoneum. Sufficient bone should be replaced to completely fill the wound, picking out such portions as have the smooth surface of the inner table intact to place in contact with the dura mater. By clipping the pieces with bone scissors they can be made the better to fill up inequalities; and it would seem an advantage when two portions have to overlap that the opposing surfaces should consist of exposed diploë. One would argue from analogy that the replaced bone would be more likely to retain its vitality and new bone be more likely to be formed to fill up the interstices in the replaced bone, when the pericranium can be brought over it. But that a covering of pericranium is not absolutely necessary is well exemplified by these two cases, since in both so much pericranium was torn away that the replaced bone could not be thus covered. It has been advised that when the wound is accurately closed after the operation of trephining &c. if any fluid collection is felt beneath the scalp a probe should be introduced under some of the stitches to let it escape. This is quite unnecessary, and further I think exposes the patient to a risk of septic trouble. Our aim, I hold, should be to get the edges to unite throughout by primary union and thus render the wound subcutaneous as soon as possible. Then if we have ensured the wound being aseptic to start with, any danger of secondary infection is, one might almost say, completely avoided. The fluid, if left alone, is slowly absorbed. I have seen so much fluid collect beneath the closed wound that a distinctly raised and freely fluctuating swelling was produced, but so evenly and completely have the edges of the wound united that not a drop of fluid escaped on fairly firm pressure being made over the fluctuating swelling and complete absorption occurred without rise of temperature. On the other hand, where a probe has been introduced to let the fluid out, I have known it continue to escape for some weeks. Where there has been no wound of the dura mater the fluid, I take it, is merely the serous exudation from the surfaces of the wound, but in other instances, especially where it has continued for some weeks, through some slight, though possibly at times imperceptible, lesion of the dura mater from the subdural space.

SUNDERLAND INFIRMARY.

TWO CASES OF VAGINAL HYSTERECTOMY FOR CANCER; RECOVERY.

(Under the care of Dr. JAMES MURPHY.)

WHEN this operation was first introduced to the notice of the profession it did not yield good results, but as the technique has become more perfected the recoveries have been much more numerous, and it is viewed with considerable favour at the present day. Much has been written on the subject during the last year or two, until the literature is extensive, and the greater part of the testimony of the various writers is in favour of this operation for cancer of the uterus, when it appears possible to remove all the disease by it, and of its performance as soon as possible after the disease is recognised. Martin[1] thinks the operation should not have a mortality of more than 5 per cent. Leisse gives the statistics in eighty cases which had been operated on by him over two years previously. Of these, 56·25 per cent. were living, and 43·75 per cent. died. Of the 35 deaths 8 died of other affections. Of 70 cases operated on by Schauta 5 died (2 as a result of the operation).

On July 13th, 1891, Mrs. W——, aged forty-seven, was sent into Dr. Murphy's wards for vaginal hysterectomy on account of malignant disease of the cervix from which she had suffered for several months. The disease was limited to the cervix, which was fairly long; the vagina and glands were not involved. The uterus was freely movable and could be pulled down as far as the perineum. For four days carbolic injections were administered three times daily and on the 17th hysterectomy was performed. She was placed in the lithotomy position and secured by Clover's instrument. The cervix was seized by Péan's large vulsellum and pulled down; the mucous membrane was cut through well above the diseased part with scissors curved on the flat both posteriorly and anteriorly; the bladder and rectum were carefully detached, partly by scissors but chiefly by the fingers, and the peritoneum before and behind was torn through. Greig Smith's clamps were applied and the uterus removed by his knives. No vessel required ligature; the clamps were left on for forty-eight hours; boracic acid injections were carefully used twice daily. There was no rise of temperature and no constitutional disturbance, and she left the hospital in a month quite well. It is reported that she continues quite well, and so far there is no sign of recurrence of the disease.

On May 2nd, 1892, Dr. Bernard of Silksworth sent in Mrs. D——, aged forty-two, in a similar condition, except that the cervix was very short and the mucous membrane had to be stripped off before the uterus could be grasped by the vulsellum; in other respects the operation and the result were the same.

Remarks by Dr. J. MURPHY.—Operations for malignant disease of the uterus, as operations for malignant disease elsewhere, are very unsatisfactory as regards the prospects of absolute cure, or of any great prolongation of life, yet life may be somewhat prolonged and made very much more comfortable by free scraping with Volkmann's spoons in cases unsuitable for hysterectomy, but where the disease is confined to the cervix and the uterus movable, the operation of hysterectomy presents great advantages. It is not particularly difficult or dangerous in suitable cases, still it is not even yet as frequently resorted to by English surgeons as by our Continental and Transatlantic *confrères*. Vaginal hysterectomy is much safer than hysterectomy by abdominal section. Whether some form of clamp or by ligature is the best means of securing the broad ligaments is still an open question. It is both unnecessary and dangerous to completely retrovert the uterus, as was formerly done in securing the broad ligaments.

[1] Sajous, 1892, vol. ii., *f.* 22.

THE TRUSS SOCIETY, LONDON.—On Tuesday last, at a meeting of the governors of the City of London Truss Society, it was unanimously agreed that sufficient stocks be sold out to produce £3000 in order that the committee might be enabled to provide new buildings for the better accommodation of the increasing number of patients, to pay off a recent loan, and generally to meet the increased requirements of the Charity.

ROYAL COLLEGE OF SURGEONS IN IRELAND: SCHOOLS OF SURGERY.—On Tuesday next, November 1st, at 12 o'clock, Mr. Hamilton, President of the College, will present the prizes awarded to the successful students of the previous sessions 1891–92. The prizes annually awarded in the schools of surgery consist of gold, silver and bronze medals, the Barker Anatomical Prize of £21, the Carmichael Scholarship of £15, the Mayne Scholarship of £15, the Stoney Memorial Prize, together with other money prizes amounting to about £100. On the same occasion the schools will be opened for the winter session 1892–93, when lectures will commence.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Amputation for Diabetic Gangrene.

THE first ordinary meeting of this Society for the present session was held on Oct. 25th, the President, Sir Andrew Clark, in the chair.

Mr. R. J. GODLEE read a paper on Amputation for Diabetic Gangrene. He said that his excuse for bringing some rather ordinary cases before the Society was that the term "diabetic gangrene" was made to include several different conditions now beginning to be recognised, and also that modern surgical improvements had modified our views with regard to amputation for this disease. Diabetics were more liable to gangrene, when once started, than others for several reasons, but the determining causes were the same as in other forms of gangrene. These were inflammatory conditions, including carbuncles, noma vulvæ, and rapidly spreading ulcers of the legs, as well as extensive sloughing of septic wounds; atheroma of vessels and peripheral neuritis, which was now generally recognised as being caused by glycosuria, and as giving rise to many neuralgic and other symptoms. The object of the paper was to point out that the so-called diabetic gangrene in most cases depended on one or other of these conditions. If the former, progress of the disease was rapid and the pain was great; if the latter, the pain was insignificant or absent and the progress slow. The former must be treated by amputation at or above the knee, because it had been shown that in these cases the degeneration almost always reached the knee, but very often did not extend further; the latter might either be left alone or treated by amputation close to the necrosed part. The following cases were illustrations of these facts. 1. A man of forty-eight, who had partaken freely of alcohol for many years. Gangrene started from a sore by the nail, and proceeded rapidly on to the dorsum of the foot. A circular amputation was done above the knee, and the patient made a good recovery. The vessels from the part removed were shown, and it was seen that the degenerative changes were very far advanced and extended as high as the popliteal artery. Microscopical sections of the vessels were also shown. The patient was present. 2. A man aged sixty-one had gangrene of the little toe caused by a corn. A line of demarcation formed and amputation was done through the dusky tissues close above the spacelated part. The wound was left quite open and the patient made a good recovery. 3. A lady, aged seventy-three, had gangrene of one toe, not very painful, and starting from a suppurating corn. The toe separated and the wounds healed after several incisions had been made in the sole and on the dorsum of the foot.

The PRESIDENT suggested that perhaps the exceeding dryness of the tissues might act as a probable cause both of the gangrene and of the neuritis.

Mr. HUTCHINSON referred to a paper which he had read before that Society some time ago on amputation above the knee in cases of senile gangrene, and in one of the cases which he instanced there was sugar in the urine. In discussing this subject it should be remembered that there were cases of diabetes and diabetes, and that many cases in elderly people with sugar in the urine were not at all acute. He had done many operations—certainly many cataract operations—in young people with diabetes, and he had not been accustomed to regard the presence of the latter disease as adding much to the risk. All his experience since the writing of his paper had confirmed him in the idea that operation above the knee was the right procedure.

Mr. GOLDING-BIRD, referring to Mr. Godlee's recommendation to amputate low down in cases due to neuritis, wished to relate a case which bore upon that point. A patient suffering from locomotor ataxy came under his care; Mr. Durham had previously removed a toe and the adjacent part of the foot for perforating ulcer. Two fresh ulcers had formed under the ball of the foot. A Syme's amputation was performed after failure of repeated endeavours to get the sores to heal. The amputation was done low down, because the disease was due to a neuritis and not to a disease of the vessels. The man did well, and the wound healed up. Later an ulcer reappeared on the stump, but the surface was liberally destroyed with nitric acid, and it was scraped, with a good result.

Mr. SPENCER said that the paper which he communicated to the Society at its last meeting covered much the same ground as that of the author, and the conclusions arrived at were the same. He related a case to illustrate the value of amputation where an inflammatory lesion was present.

Mr. CRIPPS said that he found that some time ago cases of senile and diabetic gangrene were commonly classed together and the older surgeons condemned amputation in either variety. The treatment had since been completely changed by the introduction of the antiseptic system and the more accurate knowledge that had been acquired of the manner of treating wounds. He thought that with antiseptic measures it would not be necessary to amputate so high up as the knee.

Mr. SHEILD referred to four cases of whitlow which he had seen and which he thought had an important bearing on some of the remarks which had been made. If an elderly person without an accident developed a severe whitlow of the finger, sugar would be found in the urine. They usually sloughed and sometimes ended fatally. In one case in which the finger was amputated the digital arteries were secured with great difficulty and the patient died from a spreading of the gangrene to the hand and wrist. In another case of gangrene of the finger after amputation a large slough formed on the dorsum of the foot, which afterwards separated, and the ulcer healed soundly. This class of case occurred in elderly people who were glycosuric rather than in young diabetics. In a certain number of cases of diabetes he had observed an acute extensive necrosis of the mastoid as a complication.

Mr. TREVES thought that the paper would go far to upset what had been regarded as a surgical constant. His experience in the matter of operation in diabetic gangrene was short and decisive. He did the high amputation in two cases, and in both the patients died with what he could only term a reckless rapidity; he had declined similar operations since. There seemed to be a time in the affairs of diabetes when operations could be carried out with safety, but at other periods of the disease they were fraught with danger.

Dr. DAWTREY DREWITT said that the gist of the debate seemed to emphasise the fact that every small scratch or blister in a case of diabetes ought to be treated antiseptically.

Mr. RIVINGTON said that evidently no hard-and-fast rule could be laid down with regard to the treatment of diabetes, but every case should be judged on its merits. He had had one or two cases which bore out the value of Mr. Hutchinson's method. In cases in which the gangrene was affecting the constitutional condition of the patient it was only fair to give a chance of recovery by amputation. With regard to frost-bite gangrene, some advocated leaving all cases alone, but that rule he had departed from with advantage.

Mr. GOULD related the case of a man forty-nine years of age who for five years had suffered from diabetes. In February last he sustained a trifling injury to the left foot and the wound did not heal. In July there was gangrene and spreading suppuration reaching up as far as the middle of the leg. Free incisions had been made, opium administered and a moderate restriction of diet enjoined, but this did not affect the excretion of sugar. He then amputated at the knee-joint by Stephen Smith's method, using antiseptic precautions. Within three days the sugar was nearly gone, and within nine days it had entirely disappeared. The wound healed well, and at the present time there was a trace of sugar in the urine.

Dr. GEORGE HARLEY remarked that in many cases of diabetes in which the patient was seized with a severe intercurrent malady the sugar entirely disappeared, and remained absent until convalescence began to be established.

The PRESIDENT corroborated this observation, and said that in cases of enteric fever in diabetes, as soon as the fever had fairly set in the sugar disappeared and remained absent till convalescence.

Mr. GODLEE, in reply, said that so little was known of the reaction of tissues to micro-organisms that he purposely avoided discussion of the influence of dryness &c. on the progress of the lesions. In one of his cases the diseased condition of the vessels demonstrated the futility of amputation low down. It certainly was not safe to amputate, or, indeed, to operate in all cases of diabetes. He had heard it stated that even so slight a thing as a more strenuous modification of the diet had produced a fatal result in some cases; and

this was worth bearing in mind, because in some of the fatal cases the patients might probably have died, not of the amputation but from the highly scientific diet to which they were subjected.

MEDICAL SOCIETY OF LONDON.

Traumatic Volvulus of Small Intestine treated by Abdominal Section.—The Treatment of the Peritoneum in Abdominal Surgery.

AN ordinary meeting of this Society was held on Oct. 23rd, the Vice-President, Dr. Symes Thompson, in the chair.

Mr. G. R. TURNER read a paper on a case of Traumatic Volvulus of the Small Intestine which was treated by abdominal section. The patient, a boy aged seven, was admitted to the Seamen's Hospital on July 26th, 1891, having fallen from a height of twelve feet against the pole of a boat and then into the river mud. He was much collapsed and vomited several times. He soon became restless, with abdominal pain and tenderness referred chiefly to the right iliac fossa. The vomiting continued and acquired a fæcal odour. Mr. Turner was sent for, and some twenty-four hours after the accident he opened the abdominal cavity. There was no evidence of any rupture of the intestine and no general peritonitis. A mass of entangled intestines (ileum) was felt to the left of the middle line. This was easily unravelled. On examining the intestine two collapsed, flattened parts, one foot and two feet in length, and separated from each other by about four feet of intervening intestine, were discovered. The collapsed gut at either end passed abruptly into the neighbouring intestine. There was no tear or rent found in either mesentery or omentum and no band of any kind was discovered. There was no further vomiting after the operation. Flatus was passed on the second day and the bowels acted naturally on the eighth day. The patient made an uninterrupted recovery. Mr. Turner made some remarks on the diagnosis, and suggested that the volvulus was caused by the fall, as the boy was previously perfectly well. The success of the operation was attributed to its early performance before abdominal distension or intestinal adhesion was present.—Mr. SHEILD remarked that these cases were excessively rarely met with in practice. When grave intestinal symptoms appeared, so to speak, spontaneously without obvious traumatism, there were still many who doubted the propriety of immediate operative interference; but in a case such as that related, where the symptoms developed immediately after an injury, he thought that most surgeons would at once perform laparotomy.—Dr. FRANCIS HAWKINS said that when fifteen years ago he was a pupil at a county hospital he remembered seeing a female admitted, between thirty and forty years of age, who had fallen from a chair and sustained an abdominal injury. She died with symptoms of acute intestinal obstruction, and at the necropsy, when the abdomen was opened, there was found a figure-of-eight twist of the intestine at the level of the umbilicus which became easily unravelled on removal of the pressure of the abdominal wall.—Mr. JESSETT referred to some experiments which were brought before the Congress at Berlin some time ago, in which a loop of intestine was cut off from the main channel and both its ends were closed with suture. The continuity of the main channel of the bowel was then restored by uniting the upper and lower cut ends. In a few days it was found that the portion of intestine which had been closed gave rise to obstructive symptoms, owing to its becoming distended with its own secretion. He had repeated this experiment on a dog and confirmed the observation. He detached a piece of small intestine sixteen inches in length, washed it well out with carbolic solution, and then closed both ends of the loop, of course leaving the mesenteric attachment intact. He then re-established the continuity of the main bowel with a circular suture and the dog recovered from the operation. Twelve days later the animal was killed and the closed loop was found filled with fluid; six ounces of this were collected and analysed; it contained leucocytes and fat and was evidently succus entericus. If, therefore, one had to deal with a volvulus, which on exposure was found to constrict the gut above and below at the twist, and which could not owing to adhesions be untwisted, and if it were decided to short-circuit the intestine by means of Senn's plates and leave the volvulus with closed ends, it would be necessary, owing to this secretion, to provide for the drainage of the closed loop by anastomosing it with a neighbouring coil of intestine. The cases requiring this were of course very rare.—Mr. STAVELEY related a case which had happened in the practice of Dr. Nicoll of Margate, who was called to see a child five years of age, which while playing had struck its abdomen against a seat. When he saw the girl a short time afterwards there was no shock, but some colic, a little tenderness to the left of the umbilicus and vomiting of undigested food. The next day there was no action of the bowels and no tenesmus, though the vomiting continued. Twenty-four hours after the onset of the symptoms the child died, and at the necropsy a volvulus of the small intestine was found thirty inches from the pylorus; there was no abnormality in the length of the mesentery.—Mr. CRIPPS advocated a long incision in cases of exploratory laparotomy. Surgeons too often made a short incision, and were then much hampered in their inspection of the gut. The intestines should be allowed to crowd out of the wound and be received on a warm damp cloth. If there were much difficulty in returning them a puncture should be made, the contents evacuated, the incision closed and the gut would then readily return.—Mr. TURNER, in reply, said that the case related by Dr. Hawkins bore out some experiments which had been made as to volvulus; that it could be easily produced when there was some obstacle in front like the anterior abdominal wall, but when the resistance of the latter was removed it just as easily unravelled. In a case which he operated on, which was moribund where the obstruction had been unrelieved for six days, it was found at the operation that the volvulus was nevertheless quite easily unravelled. The patient, however, died from shock. He preferred a long incision in these cases; he found first the end of the ileum near the cæcum, and traced the small intestine from below upwards till he arrived at the obstruction.

Mr. MEREDITH read a paper on the Treatment of the Peritoneum in Abdominal Surgery. We reserve an account of this paper for our next issue.—Mr. DORAN said that the substance of the paper was insistance on avoiding unnecessary injury to the peritoneum. It was impossible to determine what amount of necessary injury the peritoneum would tolerate, and it was quite impossible to distinguish between the harm done to the peritoneum itself and that arising from cold or handling. He asked Mr. Meredith if he thought that accumulations of flatus could bring on peritonitis. He was certain that manipulation of the peritoneum had in certain cases a salutary effect.—Mr. SHEILD remarked on the difficulty in some cases of preventing the peritoneum from being stripped up from off the anterior abdominal wall, and to prevent this he usually stitched it provisionally to the skin before proceeding to manipulate the abdominal cavity.—Mr. MALCOLM said that it was essential after the operation to maintain a clear intestine. The great majority of the fatal cases died from septic peritonitis or from obstruction to the bowels. The modern plan was to adopt starvation as to food by mouth in order to rest the intestine and to give far less opium than was formerly the case.—Dr. SYMES THOMPSON said that since the introduction of antiseptics much better results had been obtained in operations on the pleura and lung at Brompton.—Mr. MEREDITH, in reply, said that he still believed thoroughly in antiseptics as used by Lister, with the exception of the spray, his reasons for abandoning which he had stated fully in the paper. Stripping off the peritoneum from the anterior abdominal wall might occur where one had to deal with a thick cyst wall firmly adherent to the serous membrane; in such cases it was important to allow no blood to remain between the peritoneum and the muscle sheath. His great point was that the peritoneum should be left as much as possible in the normal state; avoiding rough manipulations and flushing without sponging was the best means for securing this. In cases of tubercular peritonitis, on the contrary, rough sponging was wanted over the affected surface.

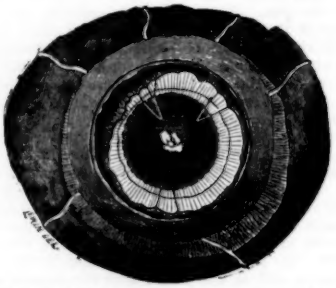
OPHTHALMOLOGICAL SOCIETY.

Congenital Defects of the Iris and Glaucoma.—Neuro-retinitis following Influenza.—Optical Condition of Fifty Persons complaining of no Ocular Disturbance.

THE first ordinary meeting of the session was held on Thursday, Oct. 20th, the President, Mr. H. Power, in the chair.

Mr. TREACHER COLLINS gave a lantern-slide demonstration of the microscopical characters of three eyes—(1) Congenital absence of the iris and opacities in the lens; (2) congenital

coloboma of the iris and lens outwards, with glaucoma; and (3) traumatic aniridia and glaucoma. In the first case he found that the ciliary body ended in a rudimentary iris in its entire circumference, though clinically none could be seen. On one side of the sections a small piece of the sphincter muscle was present; on the other no such structure could be made out. The uveal pigment on the back of the iris ended in a double fold, and there were abnormal adhesions passing between the ligamentum pectinatum and the root of the iris, and remnants of the pupillary membrane were present. There was, besides other opacities in the lens, one at its anterior pole raised above the surface, and evidently due to subcapsular proliferation of the lining epithelium. He thought the arrest



Anterior half of right eye of Case 1. The cornea and sclera have been peeled off, exposing a narrow rim of iris, some tags of pupillary membrane, and an anterior polar opacity of lens. (× 2½.)

of development of the iris, as well as the other changes found in this eye, could be explained by the theory put forward by Manz, which attributed them to abnormal adhesion or late separation of the lens and cornea, and which mechanically prevented the growth inwards of the iris. He pointed out that there was quite sufficient iris in this case to block the whole of the posterior surface of the ligamentum pectinatum should it have become pushed forwards, and that it was therefore quite possible for eyes in which no iris can be seen to become glaucomatous. In the second case the filtration area in the region of the coloboma of the iris was found more than half closed by a small process with a double layer of pigment on its posterior surface, in which the ciliary body terminated. The ciliary processes opposite the cleft in the lens were directed backwards. This he thought due to the absence of any forward traction by the fibres of the suspensory ligament, which were probably wanting in that position. In the third case there had been a wound of the cornea, through which the whole of the iris and a great portion of the lens had escaped eight and a half months before excision. The eye became glaucomatous, and the nerve was deeply cupped. There was a broad adhesion of the lens capsule to the corneal cicatrix. The advanced position it had thus taken up had drawn forward the ciliary processes, so that the most anterior of them were in contact with the cornea and blocked the filtration area.

Mr. HARTRIDGE read notes upon a case of Double Neuro-retinitis after Influenza. The patient, a girl aged sixteen, suffered from a severe attack of influenza in May, 1891, and a less severe attack in June, 1892. The second illness was soon followed by gradual and progressive failure of vision. The vision is now $\frac{6}{18}$ in each eye, with correction of some astigmatism. The patient has suffered during the past six weeks from constant headache on the right side. The optic discs are white, blurred and rather swollen; arteries slightly diminished in size, veins slightly tortuous, white lines along some of the large vessels; numerous bright scattered patches in the macular region; no hæmorrhages. There has been no evidence of renal disease; the patient is anæmic, but well nourished.—Mr. CROSS mentioned two cases in young women in whom sight failed a few months after an attack of influenza and whose fundi exhibited changes almost identical with those in the case exhibited. He also alluded to three other cases in which optic atrophy followed close upon an attack of influenza.—Mr. TWEEDY, who had seen one of the cases of atrophy spoken of by Mr. Cross, was of opinion that it was a consequence of influenza. He thought that neuritis after influenza was by no means uncommon and sometimes there was strabismus.—Mr. JULER remarked on the close similarity of the case with one under his own care. He thought, if anything, the ocular appearances suggested renal rather than intra-cranial disease.—Dr. JAMES TAYLOR said that the appearances in the fundus closely resembled those he had met with in cases of cerebellar tumour. As the case had not been observed in the acute stage, he thought the inference inconclusive.

Mr. WORK DODD presented some observations on the sight of fifty individuals who had made no complaint concerning their eyes.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.

FRIDAY, OCT. 21ST.

Dr. J. WOODMAN, F.R.C.S., President, in the chair.

DR. WOODMAN, on taking the chair at this the opening meeting of the fourth session of the Society, congratulated the large number of members present on the very satisfactory position the Society had now taken in the regard of medical men in Exeter and in the county. Dr. Davy then introduced a discussion on Typhoid Fever, and illustrated his remarks by giving details of interesting cases that had come under his notice in private and hospital practice. An interesting discussion followed the reading of his paper.

Mr. H. ANDREW (house surgeon to the Exeter Hospital) then showed two patients with Locomotor Ataxy and who were suffering from Charcot's joint disease (knee). One patient was under Dr. Davy's care and the other under Dr. Blomfield's care, and both cases had been treated with silicate of potash splints with decided benefit. Excellent photographs, taken by Mr. G. Stewart Abram, M.B., were shown and admirably illustrated the particular displacements in both cases.

The annual dinner of the medical men of Exeter and the neighbourhood was held at the New London Hotel, Exeter, the same evening, Mr. Lewis Mackenzie, F.R.C.S., of Tiverton, in the chair.

TORQUAY MEDICAL SOCIETY.

A MEETING was held at the Torbay Hospital on Oct. 12th, Mr. Karkeek, the President, in the chair.

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Reviews and Notices of Books.

Die Syphilis und die venerischen Krankheiten. Ein kurzgefasstes Lehrbuch zum Gebrauche für Studirende und praktische Aerzte. Von Dr. ERNEST FINGER, Docent an der Universität in Wien. Mit 5 lithogr. Tafeln. Dritte wesentlich vermehrte und verbesserte Auflage. Leipzig und Wien: Franz Deuticke. 1892. [*Syphilis and Venereal Diseases: a Concise Textbook for Students and Practitioners of Medicine.* By ERNEST FINGER, M.D., Docent in the University of Vienna.]

DR. FINGER endeavours to place before his readers in this, the third edition, the pathology of syphilis viewed from the modern bacteriological standpoint. In this he certainly has succeeded, while at the same time he testifies to the gaps in our knowledge of the syphilis microbe. He states at length Lustgarten's method for the demonstration of the bacillus in the tissues as well as in the secretions, and also Doutrelepont's; inoculation and cultivation experiments are still wanting. Dr. Finger does not allow his facts to be warped by theories; he draws attention to the latter on the nature of the syphilis virus only in order to impress the former. The result is a thoroughly reliable treatise and one that can be recommended. The author terms his work "concise" (*kurzgefasst*); as a matter of fact it is most fully worked out under the various headings and sets forth the most recent researches in syphilis and venereal disease. He successively treats of syphilis (acquired and inherited), soft chancre, gonorrhœa, and, lastly, of venereal affections, which sometimes occur singly and sometimes complicate the three leading venereal disorders. Symptomatology, diagnosis, prognosis and treatment are fully considered; the sections devoted to treatment deserve commendation, and the various methods of drug administration are set forth with terseness. The author gives his reasons for preferring one method to the others, but avoids being dogmatic on the subject, The opening paragraphs are devoted to a sketch of the history of syphilis, without, however, adding to our knowledge in this respect. Dr. Finger is a staunch "dualist"; he bases his position on personal observation and supports it by trenchant criticism of the opposite view. The classical division of syphilis into three stages is followed. The first stage is made to include the multiple glandular affections and terminatesonly with the appearance of the eruption. The polymorphic character of the eruption and its bearing on prognosis are prominently set forth. The prognosis in secondary syphilis as regards the appearance of tertiary symptoms is more favourable in the moist form of the eruption than in the scaly and dry forms, and as the former are more frequently met with in women, tertiary symptoms are less often seen in them.

Dr. Finger does not admit the infectiousness of tertiary syphilis. He regards this stage as a specific cachexia produced by syphilis toxine, and, the severer the symptoms of secondary syphilis are, the earlier, speaking generally, does tertiary syphilis make its appearance. In fact, in severe cases (lues maligna) the cachexia is concomitant with secondary syphilis and then tertiary sores are infective, but only by reason of the activity of the syphilis virus of the second stage. Further, if tertiary syphilis were a manifestation of active syphilis, reinfection, which is known to occur during the tertiary stage, would, he thinks, be inexplicable. Dr. Finger lays great stress upon the care which should be bestowed upon the teeth and gums during the administration of mercury, and gives several useful formulæ. He regards inunction as the most, and administration by the mouth as the least, favourable method of placing the patient under the influence of mercury. Under tertiary syphilis are described the various gummatous affections that are met with in the different organs and structures—including the nervous system—of the body. Dr. Dimmer contributes a section on Syphilitic Affections of the Eye and its Adnexa. In the section of Inherited Syphilis the various points concerning infection on the part of mother and child are well discussed. Dr. Finger considers treatment should be continued at least for two years uninterruptedly, and then at intervals during the third year as long as no evidence of relapse is present. He regards the various sulphur baths as most beneficial in the tertiary stage or at the end of an energetic course of mercurial inunction. Marriage should not be permitted till three years after infection, and then only provided no symptoms had occurred during the third year. Even then a course of mercury might be with advantage prescribed, followed by the administration of potassium iodide. Tonic treatment is also insisted upon, and the formulæ of Zittmann's decoctions (strong and weak) are given *in extenso*. Dr. Finger denies that there is a specific virus producing the soft chancre. He regards it as the product of suppuration—i.e., of pus cocci—and states that the pus of acne, scabies and impetigo may produce soft sores in healthy subjects. He mentions Cooper, Bumstead and Taylor as having demonstrated these points some years ago. He alludes to Ducrey's bacillus, and draws attention to the want of proof of its relation to ulcus molle.

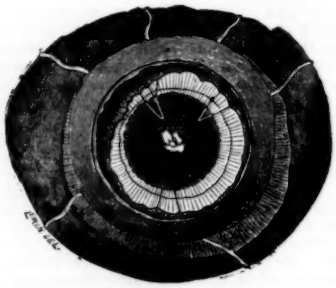
Dr. Finger fully admits the etiological relationship of Neisser's gonococci to gonorrhœa. He gives easy methods for recognising their presence in suspicious discharges. The complications of gonorrhœa are fully treated, and Dr. Dimmer describes the blennorrhœic affections of the eye. Under the division, "Venereal Affections occurring singly or complicating the three chief Venereal Disorders," Dr. Finger describes balanitis, vulvitis, venereal warts, phimosis, paraphimosis, lymphangitis and adenitis.

In conclusion, we may remark that the subject matter is clearly and concisely stated. The author's style is lucid, in marked contrast to many German medical works. English readers whose acquaintance with German may not be very extensive will have no great difficulty in arriving at the writer's conclusions. The type is clear, and a comprehensive index adds to the value of the work. The five coloured plates are good specimens of German work, and represent various lesions of syphilis, soft chancre, incipient stricture, gonococci and syphilis bacilli.

Inoculation a Preventive of Swine Plague. By F. S. BILLINGS, M.D.

SINCE M. Pasteur introduced protective inoculation for anthrax by means of specially prepared virus or "vaccine," as he unfortunately named it, efforts have been made to protect the porcine species in a similar manner from the intensely infectious and extremely destructive disease generally designated swine plague and swine fever. On the Continent much attention has been given to the subject, and, according to report, a large measure of success has attended the inoculation of cultivated virus into herds of pigs exposed to infection. In the United States of America, where the scourge rages almost continually and causes startling havoc, protective inoculation has likewise been tried on a somewhat extensive scale, and, according to one account, which has been disputed, with beneficial results. For some time the discussion arising from this difference in conclusions has been carried on in a somewhat acrimonious spirit, and the book just issued by Dr. Billings is the culmination of the dispute. In it, while adducing evidence to show that his mode of inoculation of pigs to preserve them from the malady has been on the whole satisfactory, he is unsparing in his denunciation of the administration of the United States Agricultural Department, which he stigmatises as a public scandal. He is particularly severe on the secretary

coloboma of the iris and lens outwards, with glaucoma; and (3) traumatic aniridia and glaucoma. In the first case he found that the ciliary body ended in a rudimentary iris in its entire circumference, though clinically none could be seen. On one side of the sections a small piece of the sphincter muscle was present; on the other no such structure could be made out. The uveal pigment on the back of the iris ended in a double fold, and there were abnormal adhesions passing between the ligamentum pectinatum and the root of the iris, and remnants of the pupillary membrane were present. There was, besides other opacities in the lens, one at its anterior pole raised above the surface, and evidently due to subcapsular proliferation of the lining epithelium. He thought the arrest



Anterior half of right eye of Case 1. The cornea and sclera have been peeled off, exposing a narrow rim of iris, some tags of pupillary membrane, and an anterior polar opacity of lens. (× 2½.)

of development of the iris, as well as the other changes found in this eye, could be explained by the theory put forward by Manz, which attributed them to abnormal adhesion or late separation of the lens and cornea, and which mechanically prevented the growth inwards of the iris. He pointed out that there was quite sufficient iris in this case to block the whole of the posterior surface of the ligamentum pectinatum should it have become pushed forwards, and that it was therefore quite possible for eyes in which no iris can be seen to become glaucomatous. In the second case the filtration area in the region of the coloboma of the iris was found more than half closed by a small process with a double layer of pigment on its posterior surface, in which the ciliary body terminated. The ciliary processes opposite the cleft in the lens were directed backwards. This he thought due to the absence of any forward traction by the fibres of the suspensory ligament, which were probably wanting in that position. In the third case there had been a wound of the cornea, through which the whole of the iris and a great portion of the lens had escaped eight and a half months before excision. The eye became glaucomatous, and the nerve was deeply cupped. There was a broad adhesion of the lens capsule to the corneal cicatrix. The advanced position it had thus taken up had drawn forward the ciliary processes, so that the most anterior of them were in contact with the cornea and blocked the filtration area.

Mr. HARTRIDGE read notes upon a case of Double Neuro-retinitis after Influenza. The patient, a girl aged sixteen, suffered from a severe attack of influenza in May, 1891, and a less severe attack in June, 1892. The second illness was soon followed by gradual and progressive failure of vision. The vision is now $\frac{6}{18}$ in each eye, with correction of some astigmatism. The patient has suffered during the past six weeks from constant headache on the right side. The optic discs are white, blurred and rather swollen; arteries slightly diminished in size, veins slightly tortuous, white lines along some of the large vessels; numerous bright scattered patches in the macular region; no hæmorrhages. There has been no evidence of renal disease; the patient is anæmic, but well nourished.—Mr. CROSS mentioned two cases in young women in whom sight failed a few months after an attack of influenza and whose fundi exhibited changes almost identical with those in the case exhibited. He also alluded to three other cases in which optic atrophy followed close upon an attack of influenza.—Mr. TWEEDY, who had seen one of the cases of atrophy spoken of by Mr. Cross, was of opinion that it was a consequence of influenza. He thought that neuritis after influenza was by no means uncommon and sometimes there was strabismus.—Mr. JULER remarked on the close similarity of the case with one under his own care. He thought, if anything, the ocular appearances suggested renal rather than intra-cranial disease.—Dr. JAMES TAYLOR said that the appearances in the fundus closely resembled those he had met with in cases of cerebellar tumour. As the case had not been observed in the acute stage, he thought the inference inconclusive.

Mr. WORK DODD presented some observations on the sight of fifty individuals who had made no complaint concerning their eyes.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.

FRIDAY, OCT. 21ST.

Dr. J. WOODMAN, F.R.C.S., President, in the chair.

DR. WOODMAN, on taking the chair at this the opening meeting of the fourth session of the Society, congratulated the large number of members present on the very satisfactory position the Society had now taken in the regard of medical men in Exeter and in the county. Dr. Davy then introduced a discussion on Typhoid Fever, and illustrated his remarks by giving details of interesting cases that had come under his notice in private and hospital practice. An interesting discussion followed the reading of his paper.

Mr. H. ANDREW (house surgeon to the Exeter Hospital) then showed two patients with Locomotor Ataxy and who were suffering from Charcot's joint disease (knee). One patient was under Dr. Davy's care and the other under Dr. Blomfield's care, and both cases had been treated with silicate of potash splints with decided benefit. Excellent photographs, taken by Mr. G. Stewart Abram, M.B., were shown and admirably illustrated the particular displacements in both cases.

The annual dinner of the medical men of Exeter and the neighbourhood was held at the New London Hotel, Exeter, the same evening, Mr. Lewis Mackenzie, F.R.C.S., of Tiverton, in the chair.

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of that department, who seems to have been the chief offender. The language employed by Dr. Billings is very vigorous, much of it is what has been of late euphemistically termed "Saxon," but which gentlemen and men of science might easily dispense with in favour of milder and equally effective terms. More harm than benefit results from such hard-worded altercations, and it is matter for regret that Dr. Billings, who has done some really good work as director of the Patho-biological Laboratory of the State University of Nebraska, should have committed himself to the publication of a book that reveals a very unpleasant state of affairs. It is to be hoped that his system of inoculation will be submitted to a fair and impartial examination and the evidence he gives thoroughly tested, so that the truth may be arrived at. Unfortunately, the wide prevalence of this plague of swine in some of the States affords ample opportunity to realise this desire, and we are certain that if the public interests are kept in view by both sides we shall hear no more of the public scandal. It might be remarked that as the disease is so common in this country, and inflicts so much damage on the pig industry, inoculation should be tried here. At present nothing is done, the control of the epizootic disease being left to the local authorities, who may do little or nothing in checking it just as the spirit moves them.

A Manual of Veterinary Physiology. By Veterinary-Captain F. SMITH, M.R.C.V.S. London: Baillière, Tindall and Cox. 1892.

A HANDY book on physiology for the special use of veterinary students was much needed, and the one now prepared by Veterinary-Captain Smith, who is well known from his "Manual of Veterinary Hygiene" and other contributions to veterinary literature, as well as from his prominent position of professor at the Aldershot Veterinary School. The work will commend itself to those for whom it was written by its conciseness and the able manner in which the important facts relating to the physiology of some of the principal domestic animals are dealt with and arranged. For this reason it will probably supplant to some extent Meade Smith's "Physiology of the Domestic Animals," which treats the subject in greater detail. Mr. Smith appears to have availed himself of the assistance of many of the best authorities, English and foreign, and so has made the manual more complete and reliable as a work of reference, while many of his own observations are original and interesting. The chapter on Digestion is very instructive to horse owners, as is also that on the Locomotor Apparatus. In reading the chapter on the Physiology of the Horse's Foot—a most wonderful and highly important organ to study—it is stated that a horse's sole carries but little of its weight, only the margin, which is immediately in contact with the wall, assisting. "When we remember that the sole is concave it will be clear that it has some other function than that of weight-bearing to perform—its function is to protect the sensitive sole and pedal bone." We should imagine that the entire sole was designed to support weight, and that its being concave was rather an argument in favour of its utility in this respect. The strongest bridges are those which are concave underneath, and the author must have overlooked the fact that the human foot has a concave sole, and yet it has no analogous structures like those of the horse's foot to protect. No doubt one of the uses of the horny sole is to shield the sensitive parts resting on it, but it must also support a good share of the weight, like the sole of many other species of animals.

There are many curious and suggestive remarks to be found interspersed throughout the 400 pages of which the work is composed, and that at the termination of the last chapter is one of them. Speaking of the causes of death the result of disease, it is mentioned that, no matter what the cause may be, horses seldom die quietly; "by far the majority of them leave this world in powerful convulsions, fighting or struggling to the last, lying on their side and galloping themselves to death. Rarely, indeed, does one witness a quiet death in horses, and the subject presents a problem for solution by the physiologist. Shortly after death rigor mortis appears, and within an hour or two tympanites of the abdomen is apparent, reaching such a degree in a few hours that post-mortem rupture of the diaphragm is exceedingly common. The explanation of this disturbance is the enormous amount of gas generated by vegetable food."

New Inventions.

ADMINISTRATION OF CHLORIDE OF ETHYL.

A USEFUL and ingenious instrument for the administration of chloride of ethyl as a local anæsthetic has been devised by Dr. Bengué of Paris. Hitherto this anæsthetic has been supplied for this purpose in small glass capsules, which required to be broken before the fluid could be applied to the skin. This, however, is overcome by placing it in a stoppered bulb. Having unscrewed the stopper the warmth of the hand will send out the spray. If applied at a distance of a quarter of an inch for thirty or sixty seconds to a spot, the skin first becomes pink coloured, then red, and finally white, when local anæsthesia is complete. The anæsthesia will last for more than two minutes. As a means of applying an ethereal spray to the spine in chorea, or for the relief of certain neuralgias, the advantages of this apparatus are very obvious. It is cheap, convenient, economical and handy. For the minor operations which present themselves in dentistry and in minor surgical operations, such as the incision of abscess, carbuncle, evacuation of subcutaneous tumours, removal of foreign bodies and the like, the use of the spray will be found to be exceedingly effective. The sole agency for the United Kingdom has been secured by Mr. B. Kühn, Eastcheap, London, from whom the bulbs charged with ethyl chloride and ready for use may be obtained.

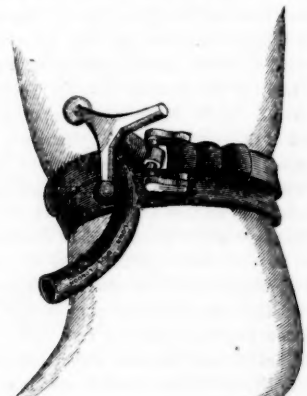
IMPROVED TRUSS FOR HERNIA.

MESSRS. SALT AND SONS of Corporation-street, Birmingham, have submitted to us an improved hernia truss of their construction with patent celluloid pad. The object of this invention is to impart an increased elasticity to the surface of the pad or cushion, to lighten it, and to provide by the use of suitable material a truss presenting a perfectly smooth surface, and capable of being easily cleansed. To effect this pads are constructed entirely of celluloid, a material which when rolled in thin sheets becomes elastic. These pads are made hollow, the back of the pad being thickened to give the necessary rigidity, for attachment to the spring, the front or convex portion which comes in contact with the body being of the material sufficiently attenuated to present a highly elastic surface. The celluloid used is polished and semi-transparent, and the spring is covered with a sheath of the same substance, which being sealed at each end effectually protects it against the action of the perspiration, presenting also a perfectly smooth surface to the body, and thus entirely

doing away with the ordinary leather cover, which may become a receptacle for dirt and infection. The entire surface of the appliance is of celluloid, and it can therefore be washed daily. Owing to the hollowness of the pad, and the thinness of the coating of the spring, the truss is extremely light, and especially is the surface presented by the pad to the hernial ring smooth, elastic and comfortable. Peculiar attention has also been paid to the shape of both pad and spring, and the instrument appears to be calculated to adapt itself to the body and fulfil its purpose.

SAMWAYS' TOURNIQUET CLIPS.

THE tourniquet forms a very important part of the armamentarium of the surgeon and any improvements which tend to render its application at once simple and efficacious are to be commended. The tourniquet before us, patented by Messrs. Down Brothers, certainly comes within that category. The band is of strong rubber and by a simple arrangement can



be fixed at any point without twisting. The clip by which fixation is effected is of two patterns—the anchor pattern and the grapnel. Whichever may be used equal security against slipping can be secured. Its simplicity and the ease with which it can be applied to and removed from the limb will render it acceptable to most surgeons.

FAVETS' LOOFAH FLESH RUBBERS.

WE illustrate below what will prove to many a useful adjuvant to the morning douche—"the Loofah Flesh Rubber." It has for its object stimulation of the cutaneous circulation, slowness of which in those of feeble hearts subtracts so largely from the utility of the daily bath, and manifests itself by coldness of the hands and feet and a general feeling of chilliness. By the use of these patent flesh rubbers these unpleasantnesses may be avoided. While it is a valuable aid in the bath it may be used for dry friction. The rubbers are supplied in various forms to suit different skins. They may be had plain with tape throughout double and handles, or with towellings and fancy attachments at both ends, and they may be half covered or entirely with towelling, which can be removed if desired. They will be found useful for stimulating the circulation in the lower extremities. They may be obtained from the patentee and manufacturer J. Favet, Seething-lane London

THE TREATMENT OF MYXŒDEMA.

To the Editors of THE LANCET.

SIRS,—That considerable interest is taken in the method of treatment of myxœdema which I have found so beneficial in a case under my care at the Royal Free Hospital, as noted in THE LANCET of Oct. 15th, is shown by the large amount of correspondence I have since had on the subject. Among other questions I have been asked whether the thyroids were given raw or cooked, how they were prepared, how procured, from what animal they were obtained. The glands I have used were from the sheep, but I do not think it matters whether sheep's, pig's, or bullock's thyroid is used, except that the latter is larger than is required for the purpose. I found both the hospital butcher and my own butcher were quite ignorant as to where or what the thyroid gland was. They knew the thymus by the name of the throatbread, and sent that at first. The simplest plan to get the thyroid was to have the larynx and trachea with the muscles sent entire soon after the animal was killed. As the part is of no value to the butcher, he should be able to supply it for quite a small sum. The thyroid gland can easily be separated from the other parts. In the sheep the lobes are rather smaller than in man and the isthmus is rudimentary. The lobes can be easily distinguished from the muscle by their oval shape and darker colour, although this varies in different cases. I have throughout given the glands raw, except at the very outset, when they were cooked by mistake. I cannot say whether they would have any effect if given thoroughly cooked. That could only be found out by experiment; but I can see no objection to very slightly cooking them—for instance, by frying. It is highly probable that thorough cooking would entirely destroy their effect. The mode of preparation in my case has been simply to mince the gland finely and give it either plain or with a little brandy. The addition of the latter was found to make it more acceptable to my patient, and also diminished the tendency to nausea which she experienced when she knew she was having something raw. Currant jelly might make it more palatable. As mentioned, I gave my patient two whole thyroids (four lobes) every day at first, but found this was too much, as the pulse rate after a time was much increased. I do not think it will be necessary to give the patient more than one thyroid every other day.

Some may prefer to employ a home-made extract of the gland, which may be prepared by mincing up the thyroid, placing it in a mortar with a little crystallised sugar and glycerine, rubbing it up with a pestle, then adding a little water and, after allowing it to stand an hour or two, filtering through muslin or calico. It is, of course, possible that a stable thyroid extract may be obtained which will in practice be found more convenient than the process I adopted. The important point is to have shown that the thyroid gland contains something which, given by the mouth, has as distinctly curative an effect as hypodermic injections of thyroid juice.

In regard to my patient I may add she has now left the hospital, but attends there twice a week to have a thyroid gland. She looks and feels very well. One of my colleagues who was lately taken to see her without being told what the case was actually did not recognise it as a case of myxœdema. She has lost two stone in weight, having previously scaled over eleven stone. One of the most curious effects is the growth of hair on the crown of the head, where only a couple of months ago she was bald. The hair is growing so thickly that at present the scalp somewhat resembles a doormat. Her hands, which completely desquamated, are quite normal in appearance. Her face exhibits no sign of its former alteration. Her spirits are good and she is quite lively in her movements. I am glad to know that the treatment is being adopted in a considerable number of cases, not only of myxœdema, but in sporadic cretinism, and I look forward with confidence to its effects in uncomplicated cases. I may be allowed to point out that many cases of myxœdema are complicated by the coexistence of other diseases, and that in these only partial benefit can possibly result.

I am, Sirs, yours truly,

HECTOR W. G. MACKENZIE, M.D., F.R.C.P.

Oct. 22nd, 1892.

THE LANCET.

LONDON: SATURDAY, OCTOBER 29, 1892.

IN the history of medicine, full as it is of vague fancies and erroneous assumptions, there is one period which stands as the inauguration of a new epoch, which marks indeed the birth of ideas that have never ceased to influence our conceptions of animal function and its derangements. The lessons taught by the life of HARVEY and his work, which are annually commemorated in the College of which he was the greatest son, have seldom been more amply and fittingly brought home to us than they were by the orator of this year in his highly finished and discriminating address. In Dr. BRIDGES, as a representative of that branch of medicine which in the present day is recognised as an essential department of the State, and for which there is a future of almost unlimited expansion, the Royal College of Physicians of London found an orator who seems to have grasped clearly the conditions under which HARVEY laboured and the far-reaching efforts which have flowed from his memorable discovery of the circulation. As Dr. DICKINSON last year pointed out, and as was equally dwelt on by Dr. BRIDGES, the age in which HARVEY flourished was one of exceptional fertility in men of genius; but one of the most striking incidents in the career of the first of physiologists was the fact that he must have come under the influence of GALILEO, who was attracting students from all quarters to his classes at Padua when HARVEY went there to study. Dr. BRIDGES thinks, and with reason, that the doctrines of GALILEO, embodying the principles of physical science and forming the basis of the modern doctrine of the conservation of energy, cannot but have impressed the young English student, and may possibly have materially assisted him in his subsequent study of the forces at work within the living body. Whilst GALILEO, then, was breaking down the old dogmas and revealing the truths of mechanical science, it was reserved for HARVEY to dispel at one word the fantastic ignorance that prevailed concerning the primary facts of biological science. The fact that SERVETUS and COLOMBO on the one hand, and CESALPINO on the other, came so near doing what HARVEY did and yet remained so far away from the real explanation of the function of the heart and bloodvessels makes manifest the strength of the hold which preconceived ideas had upon them; whilst it also serves to show how great must have been the scientific spirit which could break away from those dominating influences and arrive at a first and bold generalisation after patient and diligent observation and experiment. HARVEY realised that the heart was a muscular organ and that the blood moved through the body "in a circle," because the facts which he saw were perceived through no hazy medium or authoritative dogma, but with the clear vision of an unprejudiced observer. To us, in these days, there must often come the occasion—not indeed fraught with such momentous issues, but like in essence—when the principle underlying all HARVEY'S work must find its application. For it is the root-principle of all scientific work which can only be rendered of service when combined with an absolute freedom from bias on the part of the observer. Well and truly may Dr. BRIDGES say that scientific medicine dates from HARVEY.

In reflecting on the effects which this discovery had upon medical thought and practice Dr. BRIDGES dwelt upon the fact that it introduced vital functions within the sphere of law, and that it was adopted by DESCARTES as a main support of his mechanical philosophy of vital action—a doctrine which failed because of its narrowness. Still, as was pointed out, the immediate effect of HARVEY'S work did not result in any striking progress, because no attention had then been paid to the chemistry of the body, partly owing to its being lost sight of in too great concentration of thought upon vital "mechanics." When, however, chemistry was re-born in the eighteenth century, which also saw the rise of physiology (i.e., biology), then indeed was the full value and meaning of the circulation of the blood properly appreciated. We may smile now at the various "schools" (which were so happily sketched by Dr. BRIDGES) of opposing theories of the functions of the body and their application to its diseases, but we must not forget that they were each of them the expression of ideas arising out of the introduction into the study of vital actions of many new and true facts; and in the light of its past history it would be vain indeed to think that medicine will not traverse many another period of crude notions and partial theories before it can attain a sure position among the sciences. There are scope and range enough for many a discovery which may throw quite a new light upon certain phases of animal life and function, which may create a revolution in ideas similar in kind if not so vast in extent as the change instituted by HARVEY. Of one thing at least we may be sure, and that is that the principles which he laid down in all his research will, if adhered to with similar fidelity and single-mindedness, lead us nearer to that goal which ever seems to recede the wider knowledge grows—that, namely, which is the aim of all the sciences, the revelation of the Truth that lies hidden in the heart of Nature.

UNLESS legal redress is to be sought by those who think themselves aggrieved in the controversy which has arisen out of the recent meeting of the Church Congress, no harm would accrue to science or to morals by letting it drop for the present. No good comes of polemics conducted at such high temperatures; and the pyrexia of controversy is very like that of certain forms of continued fever—it requires time for abatement. Defervescence takes place only gradually and after the lapse of weeks; indeed, we doubt whether the discussions and processes of a law court—though doubtless acceptable to lawyers and interesting to the public—with all the leading *savants* and ecclesiastics as witnesses, would much further the progress of truth and justice in this matter; they would rather, on the contrary, tend to obscure the clear appreciation of the questions at issue. The wordy strife which has been going on in and since the Church Congress has been rough, but it has not been without its effect on all sensible and moderate people, and, after all, they are the people in this country who

decide controversy and generally decide it with a fair recognition of the merits of both sides. Undoubtedly rough things have been said and forcible language has been employed Mr. VICTOR HORSLEY has used against a lady the little word of three letters which jars on polite ears. He would have done better to have avoided it ("Gentle words are always gain"). There are synonyms which would have served; and his case is so overpoweringly good and strong that it does not need to be bolstered up with disfiguring nouns and adjectives. We are quite alive to the provocation he received. The public does not know half the hysterical abuse that has been heaped on scientific men in England—and even on their wives—who defend or use experiment on animals under a complete conviction of its uses. But, even so, they must not lose self-control. They may decline controversy with such unfair or unworthy opponents and explain their ample reasons for doing so, but they should rely solely and confidently on their own character and work and not on the strength of unparliamentary monosyllables. With this qualification the case for humane experiments on lower animals with a view to elucidate the nature of disease or the action of remedies has been completely established by the recent discussions. Sensible men—and women too—begin to see that there are deep reasons for such experiments in the solidarity of the animal creation, in a great community of interests between man and his lower fellow creatures, and in the obvious right of man—more than a mere right founded on might—to use the lower creatures for medical purposes. Such people begin to see that a great and beneficent profession, whose nature and function it is to *heal*, does not inflict suffering wantonly, and that it has incalculably good results to show for the slight pain that it does inflict. The poor appearance in argument of leading divines as compared with that of leaders of the profession has not increased respect for them as guides in moral questions. The exposure of the fact that when extreme opponents of experimentation on animals are bitten by suspected dogs they repair to Mr. VICTOR HORSLEY for guidance, sanctioning him even to sacrifice two rabbits to relieve their fears, shows that they are either very selfish or very superficial in their views, or that they conceive of themselves as having a strange authority to grant medical men such indulgences. The ordinary fair-minded man has had brought home to him with great force that, whereas bishops and clergymen have rarely a word to say against forms of sport which must necessarily cause pain to animals, they empty all their vials of wrath on those who can be shown to inflict the minimum of pain on animals, and this only for the most benevolent of purposes, and in the carrying out of experiments which have given precision to physiological knowledge, and have suggested operations which have saved many human lives and give promise to save life on an enormous scale, and to strengthen the whole foundations of medical science. Bishop BARRY, in *The Times* of Monday, is candid enough to say that he "questions the moral right" to perform such experiments on animals even in hope of the advancement of knowledge and physical benefit to mankind. Bishop BARRY was Principal of King's College for fifteen years, and during that period had as colleagues Professors RUTHERFORD, GERALD YEO, Sir JOSEPH LISTER, FERRIER and WATSON CHEYNE, all of whom were well known as having made experiments on living animals. Bishop BARRY must have forgotten that such experiments had been made at King's College or he could not now have stigmatised his colleagues as having been demoralised and cruel in the making of these. Did he ever ask them as to the details of their experiments or object to their laboratories being used for this purpose? It must be pointedly brought home to him that he was constantly meeting these colleagues and at that time made no complaint as to their investigations, and he cannot escape from the dilemma that he either was unaware of the work then done at King's College or that he did not oppose these methods for the advancement of medical science as cruel, demoralising and unnecessary. He was in daily communication with those who were well known to everybody as experimenters, and whose researches were duly made public. These members of our profession, then colleagues of Bishop BARRY, must be included among those against whom he has formulated his unkind accusations. At the present time Bishop BARRY is a Life Governor and Member of the Council of King's College, and we are told that among the most recent developments of the College laboratories for bacteriology, surgical pathology and neuro-pathology have been established. Experiments on living animals, if these laboratories are to be of any value, must be and are carried on. We only notice this as another instance of the inconsistencies into which members of the Anti-vivisection Society, who do not take regard of all the bearings of the question, are apt to fall. Bishop BARRY could have known all about vivisection at first hand from his colleagues, and is little to be pitied when he finds himself in an inexplicable position owing to his having trusted in the incorrect narratives circulated by the officials of the Society. Another prelate once said that if an experiment on the life of a rabbit would save a human being he could not approve it. Fortunately one bishop has told us that for the preservation of his voice he does see his way clear to give orders to his butcher which involve the killing of animals much larger than rabbits.

It is with no insincerity that we express our regret at seeing religious leaders so weak and unpractical in a practical and earnest age. Two things strike us in these bold opponents of science in its most urgent and benevolent form—for is not medical science urgent and benevolent above all others? They are characterised by two great mental defects which make us almost hopeless of their conversion. One is their want of *faith*. The scepticism of these men is amazing. They have absolutely no faith in the very cream of the medical profession. The testimony of men like Sir ANDREW CLARK, Sir JAMES PAGET and other leaders, to say nothing of the rank and file of the profession that is face to face with sickness and death by night and day, has no effect on men like Bishop BARRY. We are not going to use strong language about men whose profession is that of faith, but who are deplorably sceptical of a whole class of the truest witnesses, of men who see deeper into life and morals than many clergymen do. How men who believe so much can be so sceptical puzzles us. We cannot understand men who believe in GOD having no faith in their own fellow creatures. The other great defect in "anti-vivisectionists" is the entire *want of the sense of proportion* which they display. They allow that men may kill an animal to afford them pleasure at the dinner table or on the ors, as does a butcher or a sportsman, but deny

that a physician may perform an experiment on the same animal, on a rat or a rabbit, to save life. The want of the sense of proportion here is quite ludicrous. There *is* a certain difference, despite these theologians, between the value of a sheep and that of a man. This point of proportion is much insisted on in a certain book whose authority the clergy all recognise. The book declares that a man is of "more value than many sparrows," and that he is "*much better* than a sheep." But our clerical friends have no sense of proportion and cannot see that the infliction of pain on an animal is justified if necessary to save the pain of all other animals and of man, who is "better" far than them all. These defects in common men would be of less consequence; but in men who profess to be moral guides they are almost as grave as a want of charity. To think that these defects should be exhibited in clergymen—in men who pose as the moral teachers of mankind—is serious matter for reflection for all who wish well to the cause of morals and religion. If such defects are not remedied it is not the medical profession that will suffer, as it will certainly not be diverted from its own methods in the unravelling of the mysterious processes of disease.

AFTER a trial lasting five days THOMAS NEILL—or more correctly THOMAS NEILL CREAM—was convicted at the Old Bailey on Friday, Oct. 21st, of the wilful murder of MATILDA CLOVER. There were seven counts in the indictment—four charging him with having killed severally ELLEN DONWORTH on Oct. 13th, 1891; MATILDA CLOVER on Oct. 20th, 1891; and ALICE MARSH and EMMA SHRIVELL on April 12th of the present year; two with having sent threatening letters to Dr. BROADBENT and Mr. JOSEPH HARPER demanding money with threats; and lastly, one of having feloniously attempted to administer to LOUISA HARVEY a large quantity of strychnine with intent to murder her.

The prosecution elected to proceed first with the case of MATILDA CLOVER, inasmuch as the evidence was more varied and complete than in those of the others. It was urged by counsel for the defence that each case should be taken on its own merits, and that the facts as regards the alleged murder of DONWORTH, MARSH and SHRIVELL were inadmissible as evidence against the prisoner in the case of CLOVER. Mr. Justice HAWKINS, with sound common sense—and, as it seems to us, sound common law—ruled that if the evidence was corroborative it ought to be received. In each instance the victim belonged to the class of "unfortunates," and in each strychnia was the means by which death was brought about.

The convict was born at Glasgow in 1850. When two years of age he was taken to Canada. He received a medical education at M'Gill College, Montreal. He remained abroad until October, 1891, when he arrived in England. His career in America and Canada seems to have been a catalogue of crime. A self-professed abortionist, he was found guilty of murder in the "second degree," having killed a man by administering strychnine. For this he was sentenced to penal servitude for life, which was afterwards commuted to seventeen years. He remained in prison from 1881 to 1891, when on his release he came to this country and resided at Lambeth Palace-road. On Oct. 9th, 1891, he was seen by two witnesses to accompany CLOVER to her lodgings. On Oct. 20th a man answering to the description of NEILL, although his identity on this occasion could not be sworn to, went to the house with her and remained for some time. After his departure CLOVER went out again and returned between 1 and 2 A.M. At 3 A.M. the servant heard her shrieking and called the landlady. Up to the time of her death, a period of five hours and three-quarters, she remained in a state of agony, suffering from spasms or "convulsions." Her consciousness remained, for she expressed the belief that she had been poisoned, that she would die, and asked to see her child. In the absence of Mr. GRAHAM, who was sent for, Mr. COPPIN, Mr. M'CARTHY'S assistant, visited her. Mr. GRAHAM had attended her for nine days before her death for alcoholism, and, from his knowledge of her ailments and from the facts communicated by the landlady and Mr. COPPIN, he came to the conclusion that she had died from "delirium tremens and syncope." The death was registered and the body interred. Shortly after this episode NEILL asked Miss SLEAPER, the daughter of his landlady, to make inquiries at CLOVER'S residence if the latter was dead, and told her that she (CLOVER) had a child living with her. Upon Miss SLEAPER demurring, NEILL said he would take the letter himself. The next link in the chain of evidence was also forged by the criminal himself; for on Nov. 28th, a month after CLOVER'S death, he sent, in a false name, a letter to Dr. BROADBENT charging him with having murdered her by *strychnine* and demanding money. This letter was sent to Scotland Yard. Now up to this time it was not even suspected that CLOVER had died a violent death, much less that poisoning by strychnine was the form it assumed. About Easter, 1892, NEILL made inquiries of Miss SLEAPER concerning the position of Mr. HARPER, son of Mr. HARPER of Barnstaple, who resided in the same house. Soon after he sent a letter—again under an assumed name—to Mr. HARPER, saying that he had evidence that his son had poisoned MARSH and SHRIVELL (who died April 12th, 1892) and attempting to levy blackmail. On May 4th he told Mr. HAYNES, an acquaintance, that Mr. HARPER had poisoned CLOVER, MARSH and SHRIVELL as well as "LOU" HARVEY. HAYNES communicated with the police, and on June 3rd NEILL was arrested and charged with having demanded money with threats from Mr. HARPER. Then followed the result of Dr. STEVENSON'S analysis of the exhumed remains of MATILDA CLOVER. Strychnine was detected by chemical, physical and physiological tests.

It may be added that in January, 1892, NEILL went to Canada and returned to England on April 9th. A remarkable fact transpired in connexion with the case of HARVEY. NEILL met her by appointment on the Embankment, as it turned out for the alleged purpose of giving her pills to remove some spots from her face. He requested her to take them then and there, but she only feigned to do so. No doubt he believed, as in the other cases, his fell purpose had been effected and that HARVEY had died, for we find him telling HAYNES of her sudden death in the streets. It was only during the hearing at the police-court of the charge against NEILL of having poisoned CLOVER that the woman HARVEY came upon the scene and tendered her evidence. It will be seen that following the deaths of CLOVER, MARSH and SHRIVELL, NEILL falsely accused others of having mur-

dered them, and accompanied his accusations with threats to extort money as the price of secrecy. To add to his villainy he went so far as to induce his *fiancée* to write some of the letters. In no instance, however, does he seem to have intentionally disclosed his identity, or taken further measures to have his demands satisfied. In his possession were found the names and addresses of the girls MARSH and SHRIVELL in MARSH'S handwriting. This was written on paper having a foreign watermark similar to that on which he had penned his letter to Mr. HARPER. He had also shown to HAYNES the same address in a book; but this, as well as a box of capsules, disappeared. There was ample evidence that he had strychnia in his possession, for pills containing this drug were found in his rooms. Moreover, on several occasions he had purchased nux vomica in quantity beyond his individual need. Analyses in the cases of DONWORTH, MARSH and SHRIVELL showed that fatal doses of strychnia had been administered.

Having stated the salient facts proved at the trial, several points of forensic interest may now be considered. In the first place, it is a painful duty to subscribe to the remarks made by the judge and the Attorney-General in regard to the giving of a death certificate by Mr. GRAHAM. No doubt he believed on ample evidence that CLOVER was suffering from alcoholism, but this surely did not warrant him in ascribing the death to "delirium tremens and syncope." A close inquiry into the final sufferings of the deceased should have suggested at least that the symptoms were consistent with a theory other than "death from natural causes"—if alcoholism may be so termed. The girl was about as usual on the night preceding her death. She had shown no signs of delirium. During her agony she was not only sensitive but sensible. Delirium tremens does not usually end fatally within a few hours. Mr. GRAHAM certified, as we gather that he last saw deceased on Oct. 21st; but it was only her dead body that he viewed. The above is a regrettable instance of the shortcomings of the legal requirements as to the certification of death in this country.

Fortunately for the cause of justice strychnia, though a vegetable poison, has great resistance to decomposing forces. MATILDA CLOVER had been buried between six and seven months before the analysis of her remains was conducted, and yet Dr. STEVENSON was able to show the presence of the alkaloid in the various tissues and that, too, in quantity representing the administration of a fatal dose. Mr. GEOGHEGAN for the defence argued consistently with the *fas* of advocacy when he attempted to discredit Dr. STEVENSON'S testimony, but he was strong in a lost cause, for in skilled hands proof of the existence of strychnia is not difficult. His contention that the physiological test with the frog was inapplicable to the question of poisoning in the human being, though ingenious, was certainly at variance with accepted scientific teaching.

MATILDA CLOVER lived longer than do most persons who have taken a lethal dose of strychnia; but then there are no absolute limits within which death must occur. The quantity ejected in the vomit (if any), the presence or absence of food in the stomach, the simultaneous action of antidotal or antagonistic drugs and the power of absorption by the mucous membrane at a given time are important factors in determining the duration of life.

The jury had before them evidence more than enough to substantiate their verdict without being called upon to fix a motive to the crime of which they convicted NEILL. To the psychologist, however, his case is one of absorbing interest. That he willed to do the murderous deed, or, in other words, acted under conscious motive there appears to be no shadow of doubt, leaving aside the absurd legal proof of criminal responsibility—"the knowledge of right and wrong, or of the nature and quality of the act." Nor can we argue in NEILL'S favour impulsive homicidal insanity as usually understood. At the same time it is difficult to believe that the convict perpetrated these unutterable crimes with a mind constituted to realise their enormity and with a power of will equal to inhibit their commission. As to what motive may have impelled him to the commission of these singularly cold-blooded murders we are at a loss to conceive. Perhaps after all there is some reason in the lines:—

How oft the sight of means to do ill deeds
Makes ill deeds done.

Annotations.

"Ne quid nimis."

INTERNATIONAL MONUMENT TO SEMMELWEIS.

A MEETING was held in the library of the Royal College of Physicians of London on Monday, under the presidency of Sir Andrew Clark, the object of which was to combine with all admirers of Semmelweis—"the father of antiseptic midwifery"—to raise in his native city of Budapest a monument to this great pioneer of antisepticism. It is nearly fifty years since Semmelweis demonstrated the septicæmic nature of puerperal fever, and for many years his work was appreciated by only a few followers and his name was almost forgotten. We rejoice to think that his professional brethren in Hungary have determined to raise by international subscription a memorial to their distinguished countryman, who, like many a martyr, was not appreciated while he lived. Dr. Routh was the first to bring before the profession in this country the important work of Semmelweis in an article published in the Transactions of the Royal Medical and Chirurgical Society for 1849, and his name and work were revived some seven years ago by his countryman, Dr. Duka, now resident in London, and formerly Surgeon-Major in the Bengal Army. In sympathy with this movement we think a few details of the life of him whose work it is intended to commemorate may be of interest at the present time. Ignatius Philippus Semmelweis was born on July 17th, 1818, and at the age of nineteen he entered the University of Vienna and graduated in 1844. About two years afterwards he became temporary assistant professor in the maternity department of the great General Hospital at Vienna under Professor Klein. The records of the puerperal mortality had been at times very alarming, sometimes 16 per cent., or even higher. There were two cliniques, one attended by students and the other by midwives, and the average mortality of 9·29 per cent. in the clinique attended by the students, who also attended the dissecting-room, compared with the lower mortality of 3·38 in the midwives' clinique attracted his attention. All kinds of theories were advanced to explain this difference. So bad was it in the clinique of Dr. Klein when Semmelweis became the assistant that "patients, on finding themselves inmates of the dreaded clinique, fell on their knees and with clasped hands begged to be allowed to return to their homes." Semmelweis was of a highly sensitive nature and he most graphically describes

the scenes: "I myself was terror-stricken when I heard the sound of the bells [rung in the wards when the priest was administering the last sacrament to the dying]. A deep sigh rose in my breast for the unfortunate mother, who was the victim to a cause hitherto unknown. This worked on me as a fresh incentive that I should to the best of my ability endeavour to discover the mysterious agent, and a conviction grew day by day that the prevailing fatality in the Clinique No. 1 could in no wise be accounted for by the hitherto adopted etiology of puerperal fevers." The view then taught was that these epidemics were due to "atmospheric, cosmic or telluric influences." He, following the truly scientific method, showed that this theory was unable to explain the facts, for the fatal fever did not exist in other parts of Vienna. Overcrowding was suggested, but the clinique of the midwives contained more patients than the students. Then the theory of fear was advanced as a cause of the unfavourable result. Protracted labour was fatal in all cases in the one clinique, whereas in the other this circumstance had but little effect. The whole story of rejection of theory after theory is a most interesting example of the exercise of that true scientific spirit called by Sir Andrew Clark "the scientific instinct." Semmelweis's friend Professor Kollatschka died of a dissection wound. "Then the revelation came to me," he said: "Kollatschka's fatal symptoms unveiled to my mind an identity with those I had so often noticed on the deathbed of puerperal cases." At last he felt able to explain the etiology and at once enunciated the doctrine of septicæmic poisoning and ordered the use of antiseptics—namely, the washing of the hands with chlorine water or chlorinated lime-water before proceeding to examine patients. The mortality immediately before this was 12·24 per cent., and in the course of six months it fell to 3·04 and afterwards to 1·27 per cent. After careful observation he further discovered that "not particles from dead bodies alone, but any material in a state of decomposition proceeding from a living organism, even air contaminated from such sources, may generate symptoms of puerperal fever." Very soon his term of office expired, and, by a combination of jealous *confreres*, his reappointment was resisted and he had to quit the field of his scientific observations and betake himself to his native city in 1850. He there wrote his great work "Die Ætiologie," in which he also propounded the doctrine of auto-genetic infection. He was appointed professor of midwifery in Budapest. Though he was conscious of having discovered and set forth a great truth, yet his teachings met with considerable opposition, and his sensitive nature gave way. He was removed to an asylum in Vienna in July, 1865, and on Aug. 17th he passed away, the actual cause of death being pyæmia: a strange coincidence that he should die of a disease to the elucidation of which he had devoted the best years of his life. Such is the story of this most remarkable man, and we trust that the profession in this country will join with all admirers of true heroism in establishing this memorial. By the limitation of the maximum subscription to one guinea, suggested by the committee at the meeting on Monday, the rank and file of the profession, who have benefited most of all by Semmelweis's discovery, will, we trust, unite to send a contribution worthy of our country, feeling assured that in assisting in honouring him we are doing honour to our profession.

ANNUAL GENERAL MEETING OF FELLOWS AND MEMBERS AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE Fellows and Members of the College who are interested in the reform movement are reminded that the annual general meeting of Fellows and Members of the College will take place at 3 P.M. in the theatre of the College on Thursday, Nov. 3rd. We understand that the Associations of Fellows and Members are now engaged in considering what resolutions shall be moved at this meeting, and the Association of Members is prepared to follow the guidance of the Fellows' Association instead of taking the independent action which has proved in the past to be disadvantageous to the common cause. We would strongly urge all Fellows and Members who have the good government of the College at heart to attend the meeting on the 3rd and support the resolutions which will then be submitted. The prospects of progress were never brighter, but it is necessary to remember the ancient maxim *festina lente*. Too great eagerness to advance is apt to engender opposition and to lead to disappointments, which delay the attainment of the objects in view. Those who intend to be present are referred to our special articles on the work of the past collegiate year, the calendar of the College, and the report of the Council of the College to be presented at the meeting.

WORRY, DRINK AND LUNACY.

IT is no new thing to hear of the close connexion between indulgence in alcohol and the development of insanity. Accordingly we feel no surprise at a statement by Dr. Augustine Planus that a large proportion of the cases of lunacy registered in Paris of late years are attributable to this form of excess. Far more significant is his observation that drunkenness has increased very markedly in the French capital. This effect is, of course, due to a variety of causes. Among these one is of particular interest from its bearing upon the neurotic aspect of the alcoholic dyscrasia. It is the pressure and worry of overwork, probably combined as usual in the like circumstances with irregular feeding and want of sleep. Though felt by all classes of workers, an important characteristic of its action as a cause of alcoholism is its increasing influence among those who labour with their brains. Artists, authors and especially journalists—a group of persons by no means usually given to excess—are enumerated as having succumbed to the subtle poison; and this result has, doubtless with truth, been attributed to the craving depression of mental fatigue. It is not difficult, indeed, to trace a connexion here, and we may accept it as a warning that forced labour is ever prone to become the natural parent of other and worse excesses. The best work, however hard, is always methodical enough to permit of timely rest and of regular nutrition, and the full recognition of this fact is a mere question of public utility which we hope to see more and more widely admitted in practice.

THE LONDON COUNTY COUNCIL AND GLANDERS.

WE recently alluded to a new Order which had been issued by the Board of Agriculture for the better controlling of glanders, and we commented with approval on the recognition by the Board of the identity of glanders and farcy and some other features in the management of the disease. We had to condemn, however, the continuation of the local authorities as the instruments through which the regulations were to be carried out, as the experience of years had amply demonstrated that they are incompetent to undertake such a function. The Public Control Committee of the London County Council has taken the same view, for at the meeting of the Council held on the 18th inst. it reported that the law in force in England with regard to the disease was much behind that of other countries; and, after showing how the disorder had increased in London and, that the Council had urged the Board of Agriculture to provide more effectual means for dealing with it and so putting an end to the fallacious measures already in force, it afterwards offered suggestions for the improvement of the new Order, a draft of which had been placed before it by the Board. These suggestions were: (1) the insertion of a

provision for compulsory notification of cases of disease by veterinary surgeons, following the principle already adopted in the case of infectious disease in man; (2) power to require the isolation and branding of suspected animals; (3) a certificate of freedom from contagious disease from a veterinary inspector should be necessary before horses could be submitted for public sale; (4) extension of the powers of inspection; (5) sanitary regulation and supervision of trade stables; and (6) compensation should not be payable when the animal slaughtered was diseased when it entered the district of the local authority ordering its slaughter. Of these suggestions the Board only incorporated in the Order that portion relating to branding and that having reference to the withholding of compensation. This the committee of the Council greatly regretted, as they attached much importance to the principle of compulsory notification, while the condition of London stables was in many cases notoriously bad and conducive to the spread of disease amongst horses. After duly considering the subject the committee came to the conclusion that a permissive order would be ineffectual as a means for stamping out glanders in England, and that to be effective the law must be uniformly administered throughout the country. They submitted the following recommendation to the Council: "That, having regard to the necessity for uniform action throughout the country for successfully dealing with glanders and farcy, and to the heavy expenditure that compensation without contribution from money voted by Parliament would impose upon the rates, and also to the fact that the Order does not include several provisions to which the committee attach great importance, the Council do not enforce the new provisions of the Glanders and Farcy Order, 1892, as to compulsory slaughter and compensation." This recommendation, we are pleased to know, was agreed to by the Council, which is to be heartily congratulated on the enlightened views it entertains as to the measures required for combating glanders. It is certainly in this instance much in advance of the Board of Agriculture, and it is to be hoped other county councils will follow its lead in this matter, and so compel the Board to apply to Parliament for further powers and no longer trifle and dally with such a damaging and dangerous disease.

THE SANITARY CONDITION OF SOUTHEND-ON-SEA.

IN consequence of the continued prevalence of typhoid fever in this seaside resort it will be remembered that two years ago Dr. Thresh was called in by the local board to report upon the sanitary condition of the town, and if possible to ascertain the cause of the annual outbreaks of fever. The result of Dr. Thresh's investigations, which led him to consider the defects in the drainage and sewerage and the faulty method of sewage disposal as the most important factors in the causation of the disease, was not favourably received by the members of the board, and it required another sharp outbreak of typhoid fever to persuade them to carry out his chief suggestion—that an engineering expert should be called in to examine and report upon the whole sewerage system. Mr. Mansergh was commissioned to make the necessary examination and to advise the board. A few months ago he reported on the sewers, making recommendations for their extension and improvement, involving an outlay estimated at £10,000. He has now presented his second report dealing with the outfalls. He proposes to impound the sewage during certain portions of the day in two large tanks, allowing these to discharge during the falling tide only. The sewage from the lower portion of the town will have to be raised into one of the tanks by pumping. Two new sewer outfalls of 30 in. and 27 in. drain respectively are to be carried about one mile from the shore, the present outfalls for which they are substituted being utilised as storm overflows. It is also proposed to place a 36 in. storm overflow immediately under the loading pier. Mr. Mansergh says he is aware that objections will be raised to its being placed in this position, but he is unable to suggest a better. The estimated cost of the intercepting sewers, tanks, pumping plant, outfall sewers &c. is £25,000, but this does not include any sum for land or easements. To carry out both the engineer's schemes in their entirety will therefore cost the town something like £40,000, a large sum certainly; but the first town council, which will in a few days be elected, cannot do better than boldly undertake the task and place the sanitary condition of the borough beyond reproach.

GRACEFUL GRATITUDE.

THE fitness of things does not often find more apt or more eloquent expression than that which reaches us through the medium of a recent kindly action of the well-known singer, Madame Nilssen. Many years ago, so the story runs, the voice, then in its childhood, which has held in silent admiration so many audiences, was often exposed to the wintry weather of a northern home. On one occasion an attack of acute laryngitis had nearly extinguished it for ever, but the care afforded by a neighbouring hospital preserved for later times its still unawakened melody. The assistance then given was not unacknowledged, and a sum of £1000 contributed towards the founding of a Parisian throat hospital attests to-day the gratitude of the illustrious singer and her sense of the priceless aid once rendered her by the medical profession. Her debt has in a great measure been already cancelled by the pleasure which her melodious notes have given to listening thousands, but there is nevertheless a singularly appropriate grace about this last expression of her feeling. Undoubtedly it has been rendered with excellent taste.

THE OPENING OF THE SCOTCH SCHOOLS.

THE custom prevailing in the University of Paris and elsewhere of the professor in each subject giving an introductory lecture at the opening of the session is carried out with a certain amount of uniformity in the Scottish universities. Reference was made to these addresses in our correspondent's letter last week, but it may not be amiss to glance through them once more, since, as may be expected from their authors, they are worthy of more than passing notice. It was pardonable, no doubt, for Professor Chiene at Edinburgh to point with pride to the growing numbers that flock annually to its medical faculty. He recalled the fact that thirty years ago the medical school of Edinburgh numbered only 400 students, and sent out 60 graduates a year, whereas at present the roll amounts to 2000, and over 200 are "capped" annually. It was characteristic of the genial and modest professor to couple with this legitimate pride an expression of humility as to whether he had done his duty to the vast numbers of pupils that had passed through his hands since he was chosen for the chair he holds. It is a thought which should be uppermost in the mind of every teacher earnestly seeking to fill his part adequately. In the course of his remarks Professor Chiene evoked great enthusiasm by his declaration that Lister had saved more lives by his labours than "had been lost by the greatest war waged between hostile nations." Professor Grainger Stewart dwelt on the prevalence of epidemic disease, and in particular upon influenza and cholera, asserting that there was not a shadow of doubt that the latter was caused by the comma bacillus, but admitting that the treatment of the disease had not progressed in the same proportion as the knowledge of its source and means of its prevention. Professor Fraser, as became the Dean of the Faculty, detailed to his hearers the numerous important changes that had been introduced into the curriculum, including provision for the

study of special subjects after graduation by those who desired to obtain a diploma of efficiency in one or other of the "specialties" which have become apparently a necessity of the age. This is, as it should be, the engrafting of a special branch upon a basis of sound general learning. He spoke with some warmth and sarcasm upon the requirement of the Commission that the subject of pathology should be taken after that of therapeutics, and stigmatised as "irrational" that the teaching and study of the treatment of disease should be undertaken before any knowledge had been acquired of the nature of the latter. We sympathise with Professor Fraser in his complaint, and feel sure that it will not be long before it is rectified; whilst at the same time we agree with Professor Greenfield, who, also speaking of the curriculum, pointed to the great advantage derived from postponing the pathological course until after those of anatomy and physiology had been completed. He also expressed the hope that a closer association would arise between the teaching of public health and that of pathology through bacteriology, which links them both together. At Glasgow the newly elected Professor of Surgery, Dr. Macewen, after alluding in befitting terms to his predecessor, dwelt upon the roll of illustrious names connected with the University of Glasgow, including William Hunter, whose fame had been overshadowed by that of his younger brother John, whom he encourged and aided in every way to pursue the career that did so much for surgery and pathology. Professor Gairdner spoke well and wisely upon the future of therapeutics, the basis of which was, he said, being firmly laid by pharmacological research; but he deplored the waste of time and energy in imperfect observation and trial of remedies, and reiterated his conviction that systematic co-operation amongst practitioners would do an infinite service in establishing the value of measures of treatment. At St. Mungo's College Professor McVail, whose address is published on page 986, also dwelt upon the present position of medicine, particularly in regard to treatment, and sensibly referred to the extremely unsatisfactory way in which new remedies were brought to notice. He believed that we required to know more of the natural history of diseases, and that then there would be less indiscriminate drug-giving with possibly far more satisfactory results. Thus both Professor Gairdner and Professor McVail, representing as they do the highest position to which medicine has attained, see clearly the defects that are inherent in our art. It is not, as the shallow deem, because they are sceptical of the value of drugs in disease, but rather with the desire to possess a faith founded on knowledge and not on conjectures, that they seek to show us a more excellent way of establishing the truth of therapeutic laws. The work which is being done by such men as Lauder Brunton, H. C. Wood, Ringer, Fraser, Cash, Whitla and many others, is work in this direction. It will and must result in a simplification of our methods, and in a clearer insight into derangements which we term "disease," as well as into the means for rectifying them.

THE DEATH FROM PUERPERAL FEVER IN TYNEMOUTH WORKHOUSE.

AN inquest was lately held at the Tynemouth Workhouse on the death of a single woman named Isabella Proud, from puerperal fever a few hours after admission. This much was clear and was certified by the resident medical officer, who added, however, that the death had been accelerated by improper removal, consequently the chief question at the inquest was the propriety of the removal of the patient, who was in a single room with a male lodger. The stench of the room was unbearable according to the relieving officer, who visited the case on the suggestion of the medical attendant, who proposed her removal to the workhouse. The relieving officer referred the case to the district medical officer, Mr. Robson. In his absence, his father, Mr. James Robson, L.S.A. and J.P., saw the patient promptly. No one was attending to her, and the neighbours would not go into the house with him. The house was in a deplorable and offensive condition. Three women in the same house all refused to go into the room, being afraid. Mr. Robson saw there was no chance of life in such circumstances. He decided on her removal, and kindly undertook to accompany her. We entirely agree with the coroner that the removal was not improper at all, and, with a juryman, that every credit was due to Mr. Robson for removing the woman. Recovery in a poisoned room was impossible, and even to die with a little attention is less pitiful than death would have been untended at home. Mr. Robson's humanity as well as medical wisdom redeem a sad incident from utter discredit. It is another instance of the medical man being almost the only friend of the infected and abandoned poor.

RELIGION v. CHARITY.

THE Dublin Corporation on Monday last, by 32 to 10 votes, refused to consider the annual grant of £250 to the Rotunda Lying-in Hospital, simply because the majority of its governors were not Roman Catholics. As a pronounced Nationalist, Mr. T. D. Sullivan, M.P.—to his credit, be it said—remarked that the wisest and noblest course the corporation could do would be to restore to the useful institution the grant which had been withheld for several years. It is acknowledged that the vast majority of the patients are Roman Catholics; neither is it denied that the subscriptions chiefly are derived from Protestants. As showing the one-sided action of the corporation, it may be mentioned that the following Roman Catholic institutions receive corporate grants as follows:—The Hospice for the Dying, £450; Mater Misericordiæ Hospital, £500; St. Vincent's Hospital, £400; while the Adelaide Hospital, managed exclusively by Protestants, does not receive a single penny from the rates. The money of the ratepayers should be fairly allocated to al charitable institutions, or not at all.

THE "INDISCRIMINATE" SYSTEM OF THE INFECTIOUS HOSPITALS.

"WHETHER the patients be sent from the slums of St. Giles's or from Grosvenor-square the Asylums Board has no option whatever but to admit them." There is a universal admission of the fact that there is no let or hindrance to the reception of any person of any rank into the Asylums Board hospitals. And it may well be that a considerable proportion of the patients are of the class that could be well treated and isolated at home. The medical officer of health of St. Pancras is of opinion that as soon as the Foundling Hospital authorities found how easy it was for a wealthy private charitable institution to throw the cost of isolation, treatment, nursing and maintenance of their infectious sick on the ratepayers, they retraced the steps that they were taking for the treatment of their own cases within their own grounds. This point in the controversy between Mr. Littler and the Asylums Board is not the least interesting in the dispute, which is of high public importance. It is clearly public policy for sanitary authorities to provide easy and comfortable and effective treatment and isolation for the poor, but we must draw the line somewhere, unless we are to exclude the poor and to demoralise those who are able to take care of themselves. If the people in wealthy quarters are to be spared every cost and discomfort of infectious disease, we shall part with one wholesome protection against it—one of the strong motives for guarding against it. It is not only in regard to the question of admission to these hospitals that the rich have been demoralised by recent legislation, but also in provisions for throwing all the cost of disinfection

on the ratepayers as respects infected houses, rooms, articles &c. This sensitive consideration for the owner—even if perfectly able to do his own disinfection—at the cost of the ratepayer is a feature which distinguishes the Public Health Act of London from that of the provinces. True he is offered the choice and chance of doing it; but what tenant or landlord will undertake such duties when he knows that if he does not do so within twenty-four hours it will be all done for him at other people's expense? The legislation suggests the influence of property owners not only in London vestries but nearer the seat of Government, and is a part of that system which demoralises the individual and burdens the State. We are glad to notice that the Asylums' Manager does not undertake the defence of the system. He says the Managers are not to blame. Who is? In the name of the poor, for whom these hospitals and these provisions for disinfection are made, and in the name of the overburdened ratepayer, who has no right to bear the cost of the avoidable diseases of the rich, we press this question. We are only at the beginning of this system of making the State responsible for infectious diseases. Within limits it is certainly a right system, though it involves public vaccination, isolation, and all sorts of invasions of private liberty; but the limits are already becoming invisible, and we must not overdo it.

DISEASES OF ANIMALS.

A CONTEMPORARY states that cancer is reported to have made its appearance in one of the ponds of the Dunedin Acclimatisation Society of New Zealand. American brook trout only have been attacked, and none of the fish suffering from cancer have recovered. The statement that the disease has hitherto been unknown amongst fish is open to serious doubt. New growths are often found in animals, especially when they have been kept long in confinement. The animals which die in the Gardens of the Zoological Society are rarely of much use for dissection, as they so commonly suffer from tumours of the bones and viscera. Such diseases probably also occur in a state of nature, but would most likely lead to early death, the animal succumbing in the struggle for existence. In fish myxomatous and sarcomatous tumours have been seen. The fish Platax arthriticus has been known from the time of Hunter as possessing very commonly, if not always, in the adult dense bony tumours symmetrically disposed on many of its bones. Reptiles and birds appear to be the lower animals that are most subject to malignant sarcomatous growths.

INSANITARY ARTISANS' MODEL DWELLINGS.

IT is not usual to find the owners of so-called model dwellings in the police-court to answer a charge of allowing their premises to remain in a condition dangerous to health. But the owners of the artisans' dwellings in Gun-street were recently summoned by the Southwark Vestry for allowing Nos. 1 and 2 Blocks in those buildings to be in such a state. The proceedings were taken at the Southwark Police-court under the Housing of the Working Classes Act of 1890. The sanitary inspector found the dust shoots in a bad state of repair, and with absent or deficient coverings; the soil-pipe ventilators were defective and only a few feet from the water of the uncovered cisterns on the roof, which contained vegetation from two to three inches in depth; on account of the absence of proper air inlets into the drain there was danger of the traps at the bottom of the soil pipe being forced by backward pressure of sewer gas; the waterclosets were unprovided with casements. Indeed the whole property was in a dilapidated and neglected condition. It was shown that these conditions were associated with a prevalence of enteric fever and bowel complaints in the dwellings. Dr. Waldo, the medical officer of health, gave evidence on behalf of the vestry; and some rebutting evidence was called to show that the water was chemically pure, and that the basement drain-traps were secure. Eventually the magistrate decided the case in favour of the prosecution, and made an order to close, which was to be suspended for a fortnight, to see whether some improvement could not be made in the meantime. At the adjourned hearing on the 13th inst. the health officer reported that he was substantially satisfied with what had been done, and the magistrate thereupon withdrew the order to close, but inflicted a penalty of £10 and £1 1s. costs in each case. We congratulate the Southwark Vestry and Dr. Waldo upon their vigour and on the success attending this important prosecution.

THERAPEUTICS IN THE WESTERN INFIRMARY, GLASGOW.

DR. CHARTERIS, Professor of Materia Medica and Therapeutics in the University of Glasgow, has not obtained the appointment of visiting physician to the Western Infirmary, in spite of the highest personal claims and the reasonableness of giving to a teacher of therapeutics the opportunity of illustrating the action of medicines in actual cases. We adhere to our view that such a professor ought to have such a clinical appointment, and that without it both the students and he are placed at a great disadvantage. The appointment was given to Dr. Samson Gemmell, lecturer on the practice of medicine at Anderson's College, Glasgow. Dr. Gemmell will of course make good use of his new appointment, but the defect of Professor Charteris's position remains.

MR. BRAXTON HICKS ON UNQUALIFIED ASSISTANTS.

MR. BRAXTON HICKS has made some very strong observations on the employment of unqualified assistants at an inquest on Robert Barnet, aged eighty-two, who had died of apoplexy. The friends sent for Mr. Graham, whose private residence is 56, Upper Kennington-lane, but whose surgery is at 123, Tyer-street. An unqualified assistant went, and administered brandy. Mr. Graham maintained that in using an unqualified assistant so, at a different residence even from his own, he was only doing what was the practice of the medical profession. He did not tell the jury what he ought to know, that it is a practice which has been severely condemned by the Medical Council and one for which many practitioners have been removed from the Register. It is lamentable to see a medical man not only doing that which is forbidden, but saying that it is the practice of the profession. The coroner intimated his intention to report this and every such case to the Medical Council.

AN AMENDED RABIES ORDER.

A NEW rabies order will come into effect on the 1st proximo, which, it is to be presumed, the Board of Agriculture expect will tend to allay apprehensions excited by the reports of outbreaks of the disease in different parts of the country and of persons dying from hydrophobia. The order only extends to England, Wales and Scotland, with the exception of the county and city of London, and its provisions are left to be carried out optionally by the local authorities. The order includes cattle, sheep, goats and swine, in addition to horses, asses, mules and dogs, and it sanctions compensation in those cases in which slaughter of animals is found to be necessary. In respect to dogs, every local authority is empowered to seize those which have wandered into its district, subject to the usual provisions as to the duration of detention, giving notice to owners, recovery of penalties for infringement of the order and repayment to the authority of reasonable expenses incurred. If dogs are not claimed within three days they may be destroyed; if the owner has had notice, slaughter may take place within two days. Every person who has possession or charge of any rabid animal

must immediately give notice to a constable, who is to report to the local inspector and to the Director of the Veterinary Department of the Board of Agriculture. Inspectors have authority to resort to prompt action when they suspect the existence of rabies; and the local authority may, if it is considered necessary, warn the public by placard of the existence of the disease at any particular place. Local authorities may issue any other regulations they may deem requisite for the muzzling of dogs or keeping them in control; also for prohibiting the movement of animals affected with rabies, for cleansing places where they have been, for disposal of carcases, and for the production of licences and the names and addresses of owners.

"SCHOOLS" *v.* "HOSPITALS."

AT the opening of the medical session of St. Vincent's Hospital, Dublin, the lecturer, Dr. McHugh, propounded the suggestion of the advisability of instituting systematic courses of instruction in the wards of hospitals to replace in great measure that which is still carried on in the old scholastic style. He urged also upon all students not to defer acquaintance with clinical work until they had perfected themselves in anatomy and physiology, but maintained that clinical instruction should go on *pari passu* with scientific studies, the growth of which was tending to draw students away from the source of their purely professional knowledge. We fear rather that the latter suggestion would not work well in practice, but we cordially sympathise with Dr. McHugh's desire to make clinical teaching more thorough and systematic. Dr. Myles, who proposed a vote of thanks to the lecturer, feared that the proposal to transfer the teaching of medicine and surgery from school to hospital would not be acceptable, since it would tend to lower the general average of teaching power now concentrated in the few selected for their special qualifications as teachers. Mr. Tobin, however, who seconded the motion, contrasted the advantages of bedside instruction with that given in the lecture theatre.

LONDON SLAUGHTER-HOUSES.

LAST week the Public Health Committee of the London County Council sat as the licensing authority for London slaughter-houses and cowsheds. Licences for these premises are granted annually, and there is thus opportunity for the committee to deprive any person of his licence who has failed to comply with their requirements. During the last year the London County Council has adopted new by-laws for slaughter-houses, and, as a result, a number of butchers have been unwilling, or found it impossible, to meet the demands of these by-laws and have not made application for the renewal of their licences; the butchers, in fact, have learnt that they can obtain their meat supplies at the Metropolitan Meat Market, and that fresh meat is procurable from Scotland or other parts of the country, and again, the large quantities of dead meat which come from abroad, especially the colonies, have rendered less necessary the killing of animals in London. The *St. James's Gazette* contains this week an interesting article on the subject of meat-supplies to London, in which it is shown that farmers are increasingly adopting the practice of killing their cattle and sending the carcasses to the meat salesmen. It is admitted, however, that there is one serious objection to a general system of farm slaughter-houses—viz., that it does not give the opportunity for meat inspection which is thought to be necessary. This question of meat inspection is one which has attained less prominence in England than in many continental countries, but it cannot be long before communities will have to consider whether they must adopt some method which will prevent the sale of unwholesome meat. If bovine tuberculosis be alone considered there is already reason for the adoption of a system to ensure that the purchaser is made aware that the flesh he is buying is not that of a wholly sound animal. It is impossible for meat to be properly inspected in London while animals are killed in some 600 different places. The suggestion made in the *St. James's Gazette* deserves consideration, viz., that public slaughter-houses should be provided in different parts of the country—at Cambridge, for instance, not far from the Eastern counties' farms—where animals could be killed without undergoing the fatigue and terrors incident upon their conveyance to London.

THE HEALTH OF WINDSOR.

WE note with satisfaction that during the last six months the death-rate of the borough of Windsor has been as low as 10·8 per 1000, and that during the month of September there has been no death within the borough from diarrhœa or any of the zymotic diseases. It is now some years since we felt it our duty to publish certain statements concerning the sanitary condition of the Royal borough—statements which were in the first instance denied and subsequently were the cause of an inquiry by the Local Government Board. The report of the inspector entrusted with this duty vindicated the accuracy of our statements; it is therefore with the more satisfaction that we are able to return to the subject and to give publicity to the low death-rate of which Windsor can now boast.

PERFECT COMBUSTION AND SMOKE PREVENTION.

THE system of firing which formed the subject of an investigation by THE LANCET Analytical Sanitary Commission in the early part of the year, a full account of which appeared in our issue of March 5th, 1892, was the subject of a demonstration on Tuesday last at 100, Shaftesbury-avenue. Amongst those present were Sir Frederick Abel, Mr. Alderman Hammond, J.P., Sir Guyer Hunter, Sir Nathaniel Barnaby, Sir E. Reed, Professor W. H. Robinson, Professor W. Corfield, Mr. H. S. Foster, M.P., Mr. Ernest Spencer, M.P., and the Mayor of Bradford. In addition to the ordinary kitchen range, which was the subject of our report, the same principle has now been successfully applied to fires for dwelling-rooms, steam boilers and destructors. In view of the comprehensive account already alluded to it is hardly necessary to describe the system further. Suffice it to say that the engineers and other experts present expressed their entire approval of the device. The stove burns the commonest kinds of coal, produces little or no soot, and is so constructed that the smoke first produced is forced to pass through an incandescent mass by which the temperature necessary for its complete destruction or combustion is attained.

INSANITARY HOUSES.

WE commented last week with some satisfaction on a heavy penalty imposed upon the owner of a house who had neglected to obey the order of a vestry requiring him to put it into a proper sanitary state of repair. We may now refer to the imposition of a penalty of £21 14s. upon the owner of six cottages in White-square, Clapham, for a similar offence. We are convinced that the punishment awarded by the magistrate in these cases will have a salutary influence upon the owners of other insanitary property. We have also before us the fact that the owner of a house in Harleyford-road, Kennington Oval, was fined for allowing the premises to be in a state dangerous to health. He had been unable to recover possession owing to a room in the house being occupied by a woman and her two children who would pay no rent, and who refused to go out. The windows and doors had been removed and eventually the sanitary authority had to intervene. An order was made for the closing of the house. Again, on Saturday last

Mr. Carttar held an inquest on the body of a boy who died at Dilston-road, Rotherhithe. He had been living in a house in St. Helena-road with his father and eight other members of the family, but, having got into arrears with their rent, the landlord, after warning the father, had taken off the doors and windows in order to force him to leave the premises, and as a result the deceased died from chill. A sadder story can scarcely be told. It is obvious if rent cannot be paid that the landlord is entitled to possession, but the law must be very faulty if there is no better way of evicting the tenant than the course adopted in the last two cases. It may be hoped that this occurrence will not pass unnoticed and that its repetition will be rendered impossible.

OVERCROWDING OF THE PROFESSION IN NAPLES.

ACCORDING to some statistics collected by the *Riforma Medica* the number of medical men in Italy is steadily and rapidly increasing, and the overcrowding is especially great in Naples, where there is one medical practitioner to every 513 inhabitants. Medical incomes are consequently diminishing, and are shown by the income-tax returns to be distinctly inferior to incomes earned by members of other liberal professions, as lawyers and engineers. The outlook is, according to the *Riforma Medica*, a very gloomy one for medical men, and it does not seem possible to doubt that their position will soon become decidedly worse than it is now.

THE NEW ENTRIES AT THE MEDICAL SCHOOLS.

IT is premature to draw conclusions as to the numbers commencing the study of medicine in the present year. So far as our returns go, in spite of the lengthened curriculum imposed by regulation of the General Medical Council, these numbers show an increase. Our readers may remember that last year there was a very considerable rise in the number of medical students registered during the year, a rush which was naturally attributed to the desire to get the advantage of the older and shorter curriculum. If the Scotch and Irish and other returns not yet to hand should show, as our present returns seem to do, a further rise, we shall have to seek another explanation. One thing seems clear: that that calamity once feared by Lord Playfair is not likely to be realised—a dearth in the supply of medical men.

TYPHOID FEVER ON SEWAGE FARMS.

IT is alleged that two boys, each aged sixteen years, have died of typhoid fever, contracted from working on the sewage farm of the Manchester Corporation at Carrington. This is a very serious allegation against the management of the farm, which will doubtless be fully met by the corporation. For the negative evidence on this point of the production of enteric fever from sewage farm effluvia is so strong, from the history of the Croydon, Edinburgh, and other farms, that, if the facts be true, a strong presumption against the farm is raised. In the meantime, another question crops up, as to whether boys of such age should be employed at all on a sewage farm; and whether, in view of enteric sewage being often dealt with on them, it would not be better to employ men of middle age for the purpose.

DINNER TO SIR WALTER FOSTER, M.P.

A DINNER, presided over by Dr. Withers Moore, President of the Council of the British Medical Association, and attended by a large gathering of leading members of the medical profession, was given on Wednesday evening last at the Hôtel Métropole to Sir Walter Foster, M.P., in honour of his appointment as Parliamentary Secretary to the Local Government Board. The chairman, in proposing Sir Walter Foster's health, congratulated him upon being the first member of the medical profession to be appointed to a post in an English Government. In replying, Sir Walter Foster said he had held almost every office in the British Medical Association, and that it was in the Association that he received his chief training for public work. He believed that in the great problems with which the Government would have in the future to deal the coöperation of medical men as authorities on the laws of public health would be more and more required. Mr. H. H. Fowler, President of the Local Government Board, whose health was most enthusiastically drunk, referred to the number of medical men with whom that department had become officially associated as being between 4000 and 5000; that department had recognised the fact that the most valuable part of a man's property was his health, and the statistics of recent years showed a remarkable diminution in the death-rate.

BUCHANAN PRESENTATION FUND.

WE understand that a final meeting of the committee of the above fund is to be held on Thursday, November 3rd, at the residence of the treasurer, Dr. Bristowe. Any intending contributors to the fund should forward their subscriptions at once to one of the secretaries—Dr. W. H. Hamer, 73, Dartmouth-park-hill, N.; Dr. J. C. Thresh, The Limes, Chelmsford, Essex.

ALLEGATIONS AGAINST A MEDICAL OFFICER.

SERIOUS charges of neglect of duty have been made against one of the medical officers of the Birkenhead Union by certain of the guardians. He is accused of having neglected three cases that he was called upon to attend. The inquiry has been adjourned, when it is hoped that the officer will be able to exonerate himself from the charges made against him. In the meantime it would be premature to comment upon the case.

TOUCH AND TEMPERATURE SENSE.

AN interesting case, illustrating peculiarities in sensory perception, is recorded by Cavazzani and briefly mentioned in the *Neurologisches Centralblatt*. It is that of a patient whose median and ulnar nerves had been injured and then sutured. On testing the sensibility after this it was found that in certain areas where the temperature sense was retained there was no sensibility to ordinary impressions, and in other areas the converse was the case, thus giving support to Goldscheider's idea that the end-organs and conducting paths are different for the different kinds of sensibility. As, too, there were areas where only cold was perceived, while tactile and thermal impressions were not felt, it seems as if there were separate paths for heat and cold. It was also curious that a trial made when the patient was about to leave the hospital at a time when he was somewhat excited should have furnished results not quite the same as those obtained before—a change which is ascribed to the altered condition of the nervous centres due to the excitement.

FOREIGN UNIVERSITY INTELLIGENCE.

Berlin.—The Second Anatomical Institute is now finished. It is under the direction of Professor Hertwig and will be devoted mainly to microscopical anatomy and development. Dr. van Ackeren has left the Second Medical Clinic for Chicago and Dr. Vogel has been appointed to his post.

Breslau.—Dr. Beerwald has been appointed Oberarzt of the hospital in place of Professor Rosenbach, who has resigned.

Innsbruck.—Dr. Juffinger of Vienna has been appointed Honorary Lecturer in Laryngology and Rhinology.

Moscow.—Dr. Krinkoff has been appointed Extraordinary Professor of Ophthalmology.

Tomsk.—Dr. Barteneff of Kharkoff has been appointed Extraordinary Professor of Children's Diseases.

THE HODGKINS donation of £20,000 to the Royal Institution of Great Britain is, we understand, unfettered by any narrow restrictions. The utmost latitude in applying the interest accruing from it is left to the managers of the Institution, who will doubtless employ it in promoting those researches into the properties of liquid oxygen which have recently reflected renewed lustre on the laboratories in Albemarle-street. Impressed by the great scientific interest and practical importance of these researches the Goldsmiths' Company has contributed £1000 towards the expenses connected with them.

A LIVERY BANQUET was given by the Fishmongers' Company in their hall on Wednesday to a large number of the members of the medical profession. Among the guests were Sir J. Paget, Sir W. S. Savory, Surgeon-General Sir J. Fayrer, Sir E. H. Sieveking, Sir J. Crichton Browne, Sir T. S. Wells, Surgeon-General Sir W. G. Hunter, Sir W. Roberts, Sir Dyce Duckworth, Sir G. Johnson and Mr. T. Bryant (President of the Royal College of Surgeons).

A PUBLIC BANQUET will be given to Alderman Joseph Ewart, M.D., Mayor of Brighton, on his formal re-election on Nov. 9th, in recognition of the able manner in which he has performed the responsible duties of his office during the past year.

AMONG the witnesses who gave evidence before the Royal Commission on Vaccination, which met for the first time after the recess on Wednesday last, were Dr. J. C. McVail and Mr. H. H. Sturge, M.R.C.S.

THE Doncaster Infirmary has received £25 from the Duke of Portland out of money charged to visitors to the Welbeck grounds.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

The Work of the Past Collegiate Year.

THE following summary of the work of the past Collegiate year (1891-92) at the Royal College of Surgeons is arranged under the headings of the Secretary's Report and the Report from the Council to the Meeting of Fellows and Members which is to be held on Thursday, Nov. 3rd, 1892, at 3 P.M.

Laboratories on the Embankment.

The Council of the College approved in November the decisions of the Laboratories Committee that a short series of lectures should be given during the month of December, and that papers by workers in the laboratories should be allowed to appear in scientific journals with the approval of the Committee. During the year about forty-two applications were made for permission to work in the laboratories, and of these thirty were approved by the committee. Lectures were delivered by Dr. Sims Woodhead (the Director), Dr. Ruffer, and Dr. Wright in the theatre at the Examination Hall.

The Committee of Management and the Curriculum of Study.

On June 17th, 1891, Dr. Mitchell Bruce submitted to the Royal College of Physicians, on behalf of the examiners in materia medica, a list of drugs contained in the Addendum to the British Pharmacopœia, which they thought should be added to the schedule for the First Examination, Part II.; and the committee, having had the letter referred to it by the Royal College of Physicians on July 30th last for consideration and report, recommended that in view of the approaching extension of the curriculum of professional study from four to five years, and the consequent alteration and rearrangement of the subject, it was undesirable to make any addition to the schedule of drugs in use at the present time.

On Nov. 2nd, 1891, the committee considered the following rule relating to the conditions of admission to examination for diplomas in State Medicine adopted by the General Medical Council on Nov. 25th, 1890, and referred to the committee for consideration and report by the Royal College of Physicians and by the Royal College of Surgeons on June 25th last:—"Every candidate shall have produced evidence that during a period of six months after obtaining a registrable qualification he either has practically studied the duties of out-door sanitary work under the medical officer of health of a county or large urban district, or else has himself held appointment as medical officer of health under conditions not requiring the possession of a special Sanitary diploma"—and recommended that such regulation be added to those at present in force for the diploma of Health for the two Royal Colleges. This recommendation was adopted by the Colleges. The scheme for the extension to five years of the curriculum of professional education for the diplomas of the two Colleges adopted last year by the two Colleges has undergone revision and has been published in THE LANCET.

New University for London.

The action of the Council in regard to the proposed Gresham University was described in THE LANCET of Nov. 7th, 1891.

Army Medical Examinations.

On Jan. 14th, 1892, a committee consisting of Sir William S. Savory, Bart., Sir William Mac Cormac and Mr. N. C. Macnamara, with the President and Vice-Presidents, was appointed to consider and report to the Council on a letter addressed to the President from Sir Ralph Thompson, K.C.B., requesting, by direction of the Secretary of State for War, to be favoured with the views of the President on the suggestions for the mode of conducting the competitive examinations for admission to the medical staff of the army, especially with regard to the following suggestions—viz. (*a*) That the examinations should be conducted by the joint board of the Royal Colleges of Physicians and Surgeons which examines candidates for entrance into the civil branch of the profession; or (*b*) that the appointment of examiners should be made on each occasion by the Royal Colleges.

A similar letter was received by the Royal College of Physicians, and a committee was also appointed by that College to consider the matter. The two committees having held separate meetings, and the result of their deliberations proving to be practically similar, subsequently met together and agreed upon a joint report to the two Colleges, in pursuance of which a reply was sent to the Secretary of State for War stating that the two Royal Colleges were willing to undertake the conduct of the examinations for admission to the Medical Department of the army subject to the following conditions—viz: 1. That the examinations shall be under the control and management of a committee, to consist of representatives of the War Office, of the Royal College of Physicians and of the Royal College of Surgeons. 2. That the examiners shall be nominated by the committee and appointed for a definite period by the two Royal Colleges. 3. That every candidate shall be examined in each subject by two examiners in conjunction.

In the event of these conditions being accepted by the Secretary of State for War the Colleges further recommended that the committee referred to in condition No 1 should be at once appointed; and that it should be referred to such committee to draw up a scheme of examination for consideration by the War Office and by the Royal Colleges. No further communication has been received from the War Office on this subject.

Annual Meeting of Fellows and Members.—Steele v. Savory.—Further Advantages to Fellows.

These topics have been fully dealt with in the pages of THE LANCET.

Miscellaneous Topics.

Addresses of condolence on the occasion of the death of the Duke of Clarence and Avondale from the President, Vice-President and Council were drawn up and forwarded to the proper authorities for presentation to the Queen and to their Royal Highnesses the Prince and Princess of Wales. A vote of condolence with Mrs. John Wood and family was passed on Jan. 14th, when the decease of Mr. John Wood, F.R.S., was reported. A similar vote of condolence with Mrs. Hill and family was passed on the decease of Mr. Berkeley Hill. The death of Mr. Charles Hawkins elicited a unanimous expression of regret, which was sent to his sister, Miss Hawkins. The penalty of removal from the list of Members was inflicted on Caleb Charles Whitefoord, convicted of a criminal offence, and on Michael Perry, of Sydney, N.S.W., for continuing to issue his unprofessional

advertisements, notwithstanding his statutory declaration that he would discontinue them.

At the quarterly meeting of the Council in July Mr. Howard Marsh and Mr. John Tweedy were admitted members of the Council. Mr. Thomas Bryant was re-elected President, and Mr. Arthur Durham and Mr. Christopher Heath were elected Vice-Presidents for the ensuing year.

Library.

Considerable progress has been made with the new catalogue; as far as finished it is available for use by readers. The library was open on 263 days during the past year, as against 277 in the previous year; the extra closing was rendered necessary by the drainage works carried out during the summer. The number of readers for the year was 9787.

Fellows and Members.—Examinations.—Board of Examiners. Finances.—Income and Expenditure of the College.

Full information will be found in the Special Article, Calendar of the Royal College of Surgeons.

The report of the Council brings into prominence the following facts with reference to finance.

Income.

The total income of the College for the past year exceeds that of the previous year by £438. This difference is due to the increase in the amount of the fees received for the several examinations, the total gain under this head being £881 17*s.* The dental examination fees have increased nearly £100, but the gain is chiefly made on the examinations for the diploma of Member. In the case of the examinations for the Fellowship there is, however, a decrease of £171 5*s.* In most other cases the receipts are slightly smaller. The incidental receipts both at the College and from the Combined Examining Board are rather smaller, and the receipts from house property are also less, owing to a change of tenants and readjustment of rents at No. 37, Lincoln's-inn-fields. The income from dividends and stocks and shares has been reduced to the extent of £228 5*s.* 6*d.* by the sale of stock.

Expenditure.

The total expenditure, exclusive of that on buildings, is within a few pounds the same as that of last year, and on being deducted from the total income leaves a balance of £450. This sum would, however, have been considerably larger if it had not been for the unusual amount of nearly £2000 disbursed this year under the head of Extraordinary Expenditure, including the cost of a conversazione, furniture and fittings, and part of the outlay on extensive alterations to the drainage of the College buildings. With regard to the standing or ordinary expenses there is no very marked difference from those of the previous year. The total sum expended on examiners' fees is, of course, larger in proportion to the increase in the amount received from examination fees. The expenditure at the Examination Hall is almost the same, while that for the laboratories is £300 less—a smaller amount, as was anticipated, having been spent on furniture and fittings. The expenditure on the laboratories is, however, still £100 in excess of the sum estimated before their institution as the amount of probable annual expenditure. In the general working expenses of the College there is an increase of £650, chiefly due to alterations and repairs in the museums and at 44, Lincoln's-inn-fields. The special expenses of the museum are about £300 heavier this year, this being due to payments for catalogues, and the expenses of the library remain about the same. The extraordinary expenditure on buildings &c. amounts to £10,209, on the extension of the College premises, and to £1000 on the extension of the Examination Hall buildings, and to meet this it has been necessary to sell out £12,000 stock. The contracts for these works have now been completed, and the College has no further liability in this respect.

Probable Income and Expenditure.

Assuming that the examination fees remain about the same as in the last year, the income of the College will probably be about £200 less, owing to the loss of dividends by the sale of stock. On the other hand, the total expenditure should also be about £500 less, as the expenditure on fees to the Court of Examiners, on alterations and repairs, on law expenses and on museum catalogues, will probably be smaller than in the previous year. This would leave a balance of £750. As in the last year, there will be heavy expenses beyond the standing or ordinary expenses, the chief of these being a further payment of about £1300 on the drainage works, and this consequently makes the balance on th revenue account appear somewhat small.

Obituary.

The list of Fellows and Members contained in the report of the Council whose deaths have been reported as having taken place during the year includes the names of 44 Fellows and 298 Members.

THE REPORT OF THE COUNCIL.

The report of the Council of the Royal College of Surgeons of England for the collegiate year 1891–92, which has just been issued and will be presented to the annual meeting of Fellows and Members on Nov. 3rd, follows the lines of the report last year. The matter is arranged under the sixteen headings following: the Curriculum of Study, New University for London, Army Medical Examinations, Annual Meeting of Fellows and Members, Steele *v.* Savory, Further Advantages to Fellows, Removal of Members, Elections, Museum, Library, Finance, the Laboratories on the Embankment, Lectures, Returns of the Results of Professional Examinations, Statement of Receipts and Expenditure, the three last being contained in the Appendix. The most notable improvement in this report is the substitution of an abstract of each course of lectures delivered at the College, supplied by the lecturer himself, for the stereotyped syllabus, and the most notable difference between the secretary's report in the Calendar and the Council's report is that in the former there is a full shorthand report of the trial Steele *v.* Savory, whilst in the latter only Mr. Justice Romer's judgment is inserted. It may be interesting to state that the total costs of the College in the action amounted to £1216 13*s.* 4*d.*, and in Tait *v.* Savory to £48 3*s.* 2*d.* The sum of £43 14*s.* 4*d.* was received from the plaintiff in Tait *v.* Savory, and the taxing master's certificate for the taxed costs in Steele *v.* Savory amounting in all to £722 14*s.* 4*d.* was obtained. The sum of £360 has been paid on account of the taxed costs in Steele *v.* Savory, and promissory notes have been given by Dr. Danford Thomas for the balance of the taxed costs payable at four and eight months from June 2nd, 1892. The benefit to the cause of constitutional progress resulting from the settlement of the action is exemplified in the section relating to further advantages to Fellows. The Fellows and Members have gained a common room at the College, and the principle of calling the Fellows together separately from the Members for consultative purposes has been established. The first meeting of the Fellows was held on July 7th, and the report naïvely states: "No special subjects were announced for consideration, the object of the meeting being to afford the Fellows an opportunity of expressing their views on any points they might wish to bring forward." This statement is remarkable, because when notices of the meeting were sent out no kind of intimation of this object was vouchsafed. The Fellows were merely invited to meet the Council, and, as occurred at the celebrated meeting at Ephesus, the most part of those assembled knew not wherefore they were come together. The idea of withholding the statement of the object of the meeting in the summons and describing it some months later in the Council's report is singularly collegiate.

Notwithstanding the inclination which has been shown by the Council to advance, it must be obvious to all that, if any substantial concessions are to obtained, the Fellows and Members will be obliged to continue to press upon the Council those points of reform in which they may be unitedly or severally interested; and it is for the Association of Fellows and the Association of Members to take care that the present opportunity shall be properly utilised. It ought not to be forgotten that the annual general meeting of Fellows and Members has narrowly escaped abolition during the past year owing to the effervescence of reformers last November, when the near approach of the action Steele *v.* Savory and too sanguine anticipations of victory disturbed the balance of some of the more eager disputants. That no similar error will be committed this year we are well assured, and the danger is that reaction will produce an apathy and want of life and interest in the proceedings which may be cited as evidence of the inutility of the annual general meeting. The finances of the College do not wear an altogether satisfactory aspect. There is, it is true, a balance of £450 in respect of revenue over expenditure, but the extraordinary expenditure of £11,209 for extension of the College premises and the Examination Hall buildings has necessitated a sale of £12,000 worth of stock. The contracts for these works has now been completed, and the College has no further liability in that respect. There will be, however, a

further payment of about £1300 to be made for drainage works, and it is very doubtful whether the possible balance of £750 which is expected next year will be realised. Owing to the loss of dividends by the sale of stock the income will be so far less by £200, and just as it is the unexpected which happens, so extraordinary expenditure may ordinarily be looked for. In our article on the finances of the College published in February we contended that the present expenditure at the College ought to be reduced so as to ensure a margin sufficient to admit of a substantial annual investment for the purpose of bringing up the fixed income to a level with necessary expenditure. If this were done the College would be less dependent upon the fluctuating receipts derived from examinations, and the finances would be placed in a far healthier condition.

INTERNATIONAL MONUMENT TO SEMMELWEIS.

A SPECIAL MEETING of the profession in aid of the movement now on foot to erect an international memorial to Dr. Ignatius Philippus Semmelweis in his native city of Budapest took place in the library of the Royal College of Physicians on the afternoon of the 24th inst., Sir Andrew Clark, Bart., President of the College, in the chair. Dr. Cullingworth, one of the honorary secretaries, read a number of letters expressing sympathy with the object of the meeting, and regretting inability to be present. These included, amongst others, messages from Sir James Paget, Sir Joseph Lister, Sir Richard Quain, Professor Simpson of Edinburgh, and Dr. J. W. Byers of Belfast. The meeting was open to all the members of the profession, and amongst those present were Sir Spencer Wells, Dr. Routh (who first brought Semmelweis's discoveries before the profession in this country), Dr. Duka (a fellow-countryman of Semmelweiss), Dr. Watt Black, President of the Obstetrical Society, &c.

Sir ANDREW CLARK, in taking the chair, said: The story of the circumstances which have brought us together this afternoon is, I think, one of the most interesting and most instructive and one of the most touching and most inspiring that I have ever read. I venture to think that perhaps nowhere else than here, where traditions of self-sacrifice in the service of truth abound, could such a history be better told. I presume that all here are so well acquainted with Semmelweis's history that it is unnecessary for me to enter upon it now, or to occupy your time in dwelling on the points in that life story which have made it famous in the whole history of science. Instead of that I shall ask Sir Spencer Wells to move the first resolution. He will have the opportunity of recalling to the minds of those present at this meeting those points in that history which make it so exemplary to us all.

In proposing the first resolution, "That the project of erecting a monument to Semmelweis by international subscription deserves the support of the medical profession of Great Britain and Ireland," Sir SPENCER WELLS said: This movement will derive importance from being held here. I need hardly ask why it deserves our support, because the work done by Semmelweis is honourable to us all, to the whole profession, not only in his country but in our own and in all the world; because all have a pleasure in giving credit to all true workers who have done good to mankind, who have studied the causes of disease and sought out how diseases could be prevented and human life could be saved. Semmelweiss has done this, and the influence he has exerted is honourable to us all and of immense benefit to our patients. He deserves a monument, and we honour ourselves by supporting the project of his fellow-countrymen. After fifty years—when his chief work was done—he has been partly forgotten and never sufficiently known or appreciated here. In 1849 Dr. Routh first brought before the profession the work of Semmelweis by reading a paper to the Royal Medical and Chirurgical Society on Endemic Puerperal Fever in Vienna. Semmelweis demonstrated that puerperal fever was due to inoculation, to the direct application of poisonous matter to the vagina, and that the poison—such as organic matter below the nails or in the epidermis on the examining fingers of the students and doctors who had been engaged in anatomical or pathological investigations—so communicated was the cause of the malady, and that women attended by those operators were attacked, whilst those patients escaped who were attended by midwives not so occupied.

Dr. DUKA, in seconding the resolution, said: I feel deeply honoured by having been charged to second the resolution so ably and most kindly proposed by Sir Spencer Wells. I am unable to speak as I should wish on the merits of the man whose memory his professional brethren of a later generation are here assembled to honour, nor of the details of his work which gave him most justly the appellation of the "Father of Antiseptic Midwifery;" his struggles in the service of humanity and the touching incidents of his melancholy end at the age of forty-seven I refrain from dwelling upon. Semmelweis was a countryman of mine, and as I have been for some months past in correspondence on the subject with our professional brethren in Hungary I am enabled to give some account of the origin of the movement, the object of which is to erect a statue to Semmelweis by international subscription at Budapest. Semmelweis died in 1865 at Vienna, and was buried there a quarter of a century after—namely, in April, 1890—at the instance of relatives. His remains were transferred to Budapest and reinterred in a spot specially designated by the authorities of his native city. The solemn rite was performed amid manifestations of universal sympathy and respect. Following that solemn occasion the idea of a permanent public memorial was mooted, and in consequence of it the professors of the University conjointly, with certain members of the Medical Society of Budapest, formed a committee to take the necessary steps in the matter. Thus the Central Committee of the Semmelweis International Monument was constituted, with Dr. Késmarszky, professor of gynæcology, as its president. From that body emanated the letter addressed to Sir Spencer Wells, who, with his usual kindness and devotion, aided by the *ad interim* committee, and particularly by Drs. Cullingworth and Boxall, successfully paved the way for this meeting of the profession under the distinguished chairmanship of the President of the Royal College of Physicians. I am commissioned by the Central Committee at Budapest to express deeply felt gratitude for the countenance and patronage given to this movement in this country. The Committee are issuing special invitations to the profession throughout the civilised world, except to the United Kingdom, India and our colonies, which are to be left to be dealt with by the British Committee. They furthermore hope that when the next International Congress of Hygiene meets at Budapest in 1894 they will be in a position to submit to the subscribers at large the final plans of the undertaking. The Central Committee hope also that they may look with confidence to their professional brethren in the United Kingdom for sympathy and substantial support, knowing their humane and generous feelings. If there should be any who are insufficiently informed on the subject as to the great work Semmelweis has done for suffering humanity, I venture to submit the testimony of two authorities whose judgment no one can call in question. Sir Andrew Clark, in a letter to me in 1888, wrote, in acknowledging my pamphlet on Semmelweis: "The story is at once interesting, instructive and touching, and you have told it with grace and sympathy. It seems inexpressibly sad that one who rendered so great a service to mankind was not spared to find his services acknowledged and his work crowned with a great and growing success." The late Dr. Matthews Duncan, in the same connexion, said: "Thanks for your little book to the glory of Semmelweis. I have lived through it all, and never doubted his great merits. It will do good to spread his name." I beg formally to second the resolution.

Dr. ROUTH, in supporting the resolution, said that he had had the honour of communicating to his brethren in this country the first fruits of Semmelweis's labours. In looking back to his student days he remembered the man, full of intelligence, full of intense sympathy, never allowing anything to interfere with his duties.

Sir ANDREW CLARK, before putting the resolution to the meeting, remarked that there were three qualities about the man himself which had not been noted. First, there was that great quality of scientific instinct; that remarkable quality, secondly, of moral heroism; and thirdly, the question of his martyrdom, for a true martyrdom it was. As to his scientific instinct, he made the resolution to discover the cause of childbed fever or die. He took up theory after theory, and, in spite of all the difficulties in his story, he continued his work with a patience, a self-denial

and self-effacement rarely seen. It touches one not only on account of the perseverance with which he followed his scientific instinct, but also because of the success by which, through the accident of his friend Kolletschka's death, it was crowned. The question and details of the friend's death he spent weeks and months in studying, and thus made his first discovery and bit by bit got out the light until it flooded him entirely. He discovered that it was dead matter carried under the nails of the students; but this did not explain the whole of the questions. He made the second discovery, that it was living matter in a state of septic change. Still he was not satisfied, but by further investigation he came to the conclusion of the autogenetic infection. There are few such parallels in the history of science. In regard to his tremendous moral heroism, in spite of every conceivable difficulty, in positions of misrepresentation, in spite of persecution, he continued his labours until crowned with a full clearing up of the difficulties. As to his martyrdom, there is not such a history. The persecution to which he was exposed in the later years of his stay in Vienna, his being hounded out of Vienna and settling in Budapest, and his premature end in loss of reason, form indeed a sad story and one of the highest examples that can be presented. I most warmly concur in the movement and feel constrained to do everything in my power to assist its promotion.

The resolution was carried unanimously.

The second resolution, "That India and the English-speaking colonies be invited to coöperate with this country," was proposed by Dr. PRIESTLEY. In doing so he said that no better illustration of the saying that the good a man does lives after him could be seen than in the result of the discoveries of Semmelweis.

Dr. GLOVER had the greatest possible pleasure in seconding the resolution and taking part in such a movement. He could imagine nothing more fit than the use of the College of Physicians for the purpose of the meeting, and nothing more worthy of the President's power of exposition than the careful definition of Semmelweis's work and his high eulogy of it. What could be more meritorious than a discovery, however simple, that reduced so hugely the mortality and the sufferings of lying-in women? Next to the great human interest of the question was its deep professional interest, especially to general practitioners, who were brought into closest touch with those for whose benefit Semmelweis had laboured. By demonstrating the way in which the practitioner can avoid the risk of conveying puerperal poisons Semmelweis and his antiseptic followers had added immensely to the happiness of general practitioners. He sincerely trusted that the great body of practitioners whom he had the honour to represent would do their part in raising a lasting, if a late, monument to the genius and the merit of the much decried Viennese professor; and also that the committee would be able to devise some means of appealing effectually to the practitioners in India and the colonies.

Dr. WATT BLACK proposed the third resolution—viz.: "That the maximum subscription be one guinea." Hitherto, he said, there had been unanimity in the meeting, but in reference to the subscriptions the committee, after discussion, had come to the conclusion that it be limited to one guinea.

Dr. A. WALLACE, in seconding this resolution, said that he considered that Dr. Glover had struck the note which had determined the committee to make a limitation of the subscription, for it was to the rank and file of the profession they must appeal for this noble cause. He was second to no one present in his admiration and appreciation of Semmelweis, for as a practitioner of obstetrics and a former teacher, he had long ago learned to realise the value of Semmelweis's discovery. As a junior student in the Royal Infirmary of Glasgow he was privileged to watch the early experiments of Lister in antiseptics, and the exercise of that same spirit, so beautifully put by Sir Andrew Clark, of the scientific instinct. The labours of these two men, though quite independent, were naturally associated in his mind.

The fourth resolution, proposed by Mrs. GARRETT ANDERSON and seconded by Dr. GRAILY HEWITT, was to the following effect:—"That the carrying out of the above resolutions be relegated to a professional committee, with power to add to their number, with Sir Spencer Wells as chairman, Dr. Cullingworth honorary treasurer, and Dr. Boxall honorary secretary."

A vote of thanks to Sir Andrew Clark for his able conduct in the chair was felicitously proposed by Dr. Cullingworth, and the meeting separated.

CHOLERA.

CURRENT NOTES, COMMENTS AND CRITICISM.

THIS disease, although it has greatly abated, still continues to prevail in many places and to linger in others where it had manifested itself with more or less intensity during the autumn months. It is not so much the number of cases at any given place as the occurrence of a small number of attacks at so many different localities widely separated from one another that is so significant, for this serves to indicate how widely distributed the disease-cause is. In the case of a malady like cholera it unfortunately happens that the time of its distribution is not necessarily the season of its epidemic manifestation; the seed-time and harvest-time do not always follow one another closely. At Hamburg the official statistics of the disease for the last nine weeks since its first appearance in the city show that 17,989 persons were attacked, of whom 8261 died. The latest accounts report seven fresh cases and two deaths for the 26th inst. There still remain in the hospitals under treatment more than 400 cases. It is stated that the outbreak of epidemic cholera having subsided at Hamburg, the immigration of pauper aliens—mainly Russian and Polish Jews—into England has already recommenced. If this be so, it is to be regretted, we think, for with the winter before us any addition to our east end of London population can only tend to increase the poverty, overcrowding and disease already prevalent there. Fresh cases of cholera are reported from Amsterdam, Rotterdam, Huysen, Kondekerk, Utrecht and Semlin. Twenty-one deaths occurred in Holland during the past week. From St. Petersburg we learn that cholera has disappeared from Astrakhan. Since the outbreak of the epidemic there have been 125,000 cases of cholera and 65,000 deaths in the Caucasus, nearly 31,000 cases and over 11,000 deaths in the province of Saratoff, while at St. Petersburg the total number of cases has been 3300, with about 1150 deaths. At Warsaw 20 deaths have occurred from cholera, which broke out in that city from two to three weeks ago. At Budapest the disease continues, fresh attacks occurring daily, but the numbers seized and the fatal cases are diminishing. There were 23 cases and 11 deaths at Budapest from cholera on the 26th inst. The disease has reached Vienna, after having previously prevailed for some weeks in Galicia and Hungary. One fatal case occurred in Vienna on the 23rd, and another on the 24th inst., followed by a few other cases of cholera. There seems to be some difference of opinion as to the origin of these cases. By some they are attributed to the drinking of water from the river Danube, by others the disease is supposed to have been introduced by bales of rags from Budapest, but the assigned causes are purely conjectural, and rest on no scientific basis or real investigation of the facts. There have been other suspicious cases in Vienna, but the disease is not epidemic and has not given rise to any alarm. As regards France, there have been a few fatal cases at Marseilles during the week. The presence of cholera at Calais is officially announced; there have been 3 cases and 1 death in the town and 5 cases and 3 deaths in the neighbouring village of Barrate. It is alleged that at the present time there are several cases in the town, and the authorities are adopting very energetic measures. The disease is supposed to have been imported from the fishing village of Le Portel, near Boulogne. According to a report laid before the Hygienic Committee at Paris there were 90 deaths from choleraic disease in various parts of France from the 16th to the 22nd October. Of these, 9 were reported in Paris, 7 at Havre, and 33 at Marseilles. An important debate took place at the opening of the sitting in the Chamber on M. Raspail's presenting a Bill for the construction of a sewage canal from Paris to the sea, at which M. Proust, the Government Commissary, made a long speech in which he defended the present system. M. Proust rejected the idea of a canal carrying all the sewage water direct to the sea, and pointed out that the parallel currents in the English Channel would throw back all the filth on to the shore and contaminate the coast for a long distance. He alluded to the diminished violence of the different cholera epidemics from 1832 to that of 1892 and

considered the improvement was due to the improved sanitary arrangements. The best plan of disinfecting the river Seine was to increase the number of sewage farms in the direction of the sea. M. Raspail's Bill was rejected by the Chamber.

THE CHOLERA IN FRANCE.

(FROM OUR SPECIAL CORRESPONDENT.)

VISIT TO HAVRE.—PART II.

WASHERWOMEN AND THE DISINFECTION OF ALL LINEN.—THE DISTRESS.—POOR RELIEF AS A PROPHYLACTIC MEASURE.—THE HAVRE SANATORIUM.—THE WATER-SUPPLY AND THE SHIPPING.

IT has already been explained with what energy the authorities at Havre proceeded to isolate the sick and to disinfect their premises. So much energy was shown that in some cases patients were removed to the hospital and the premises they occupied were disinfected, though the occupants were not suffering from cholera. At my hotel, for instance, the servant, being overworked, was suffering from nervous exhaustion. Neighbours noticed that she had not been seen for two days, and rumours of cholera soon began to circulate. The young woman was therefore conveyed to the cholera wards of the hospital. There had been no vomiting and she was suffering from constipation. The attendants applied hot frictions, though she did not feel cold. Of course the mistake was soon discovered and the patient removed from the cholera wards. The incident proves that, if anything, the authorities sinned by excessive zeal. But for the first cases no such zeal was displayed, and it is now impossible to trace the cause of the spread of the disease. The woman who was taken ill on July 5th carefully concealed the fact that she came from the infected suburbs of Paris. Also it was not generally known that cholera prevailed in the neighbourhood of Paris, therefore no special precautions were taken. It was much later, and when the epidemic had already developed, that the first patient stated she had been to Courbevoie, but she could not remember where she had sent her soiled linen to be washed. The same uncertainty exists with regard to the second case, which occurred on July 13th and not far from the first case. It was only when a death occurred on July 15th—and this was the fourth case of cholera—that any precautions were adopted. This is the only explanation as yet forthcoming. To this early neglect is attributed the easy spread of the epidemic. If the epidemic spread easily it was also checked with comparative facility when once the sanitary service was thoroughly organised. I have already described at some length the measures taken, but there still remain in this respect some important facts to be recorded.

Havre was not the only town contaminated. Cases of cholera occurred in a number of surrounding towns and villages and it was noticed that washerwomen especially fell victims to the malady. Thereupon the mayors of the neighbourhoods where linen from Havre was brought to be washed adopted a very energetic measure. They decreed that no linen should be brought on the territory of their respective communes unless such linen had been previously disinfected by steam superheated under pressure. All the linen—not the infected linen, but all the linen now given to a washerwoman—is first taken to a disinfecting stove, and it is only when a ticket is attached to the linen notifying that it has been properly disinfected that the washerwoman is allowed to take it out of the town and wash it. Since this rule was enforced not a single case of cholera has occurred in the neighbourhoods near Havre where washerwomen live, though, as already stated, there were numerous cases before the linen was disinfected. The Minister of the Interior has taken similar precautions against Havre with a view to protecting the rest of France. A doctor is on duty at the railway station; he watches the passengers who are about to start; he has the power to prevent anyone leaving Havre who may appear to be ill. Of course persons who are ill do not generally travel, so that I do not believe anyone has been stopped. A great many passengers, however, have had to open their trunks, and if they had soiled linen it has been detained and disinfected. The doctor on duty has a list of all the addresses where cases of cholera have occurred, and asks the passengers where they come from. If they come from a house known to have been infected the medical inspector proceeds to a more rigorous examination of their luggage. As a rule this service has been carried out with the greatest leniency, and many passengers are not even aware that they are the subjects of special observation. In other instances the linen is merely sprinkled over with the spray of sublimate used for disinfecting rooms. This latter process seems to be a most futile proceeding. The sort of pump used is very powerful; it sends forth a spray with great force, and doubtless, when brought to bear upon a surface, the disinfection of that surface is complete; but a bundle of soiled linen cannot be thus disinfected. Each article would require to be spread out, and this cannot be done in a railway station and during the few minutes there may be to spare before the departure of the train. On the whole this watch established over travellers who leave Havre is not likely to have rendered very great service, except in an indirect manner.

It is probable that the town of Havre has lost something like two millions sterling through the cholera epidemic. Dockers, labourers and others at Havre were thrown out of employment and thronged to the Hôtel de Ville. They crowded the corridors and the passages, clamoured at the gates, gathered in crowds on the open space before the municipal buildings. The position was critical. All the troops generally garrisoned at Havre were away at the grand annual manœuvres. In the crowd there were a great number of women and children, who shrilly clamoured for food. Others were weeping, and not a few by their dignified yet distressed attitude clearly denoted that they were honest, hard-working people. It was impossible to refuse relief. There is a municipal bakery at Havre as at Paris. Tickets for bread at the municipal bakery were freely distributed. Then tickets for soup were also given. Apart from local resources the municipality received £6000 from the Government for the relief of the distress. When this became known every touter, every beggar, every impostor came pouring into the town from many miles round. When they obtained tickets for bread they handed them over instead of cash to the keepers of low dram shops. The latter obtained in exchange either money or bread from the bakers, who, in their turn, were reimbursed in cash by the municipality. Thus a good many tickets given for bread were in reality spent in drink. During the month of September the sum spent in giving tickets for soup, bread &c. amounted to about £80 per day. Now that the distress is not so widespread and that impostors have been discovered and dismissed the cost does not exceed £44 per day. Apart from this, a public subscription has yielded a sum of £8000, which for the most part is being spent to help the families of those who have died from cholera. All these difficulties with regard to the relief of the poor are important questions which have a very practical bearing in dealing with an epidemic. It is very certain that if a large section of the population had been left to starve the epidemic could not have been checked in so short a time.

In one respect the municipality of Havre has fallen short of what might have been expected. Great difficulties in dealing with the epidemic arise from the dirty habits of the people. The Normans are comparatively clean, but there is a colony of some 12,000 Bretons at Havre. They are for the most part navvies and labourers who came from the neighbouring province of Brittany when the docks were being constructed. They were followed by their families and have remained here ever since. They are notoriously the most obstinate and ignorant population of France. A great many of these people have been recipients of relief, and the assistance thus given might have served as an object lesson in cleanliness. It would not have cost much more to engage the services of one or two extra helpers to keep the place scrupulously clean, to establish a lavatory and to insist on personal cleanliness.

At the sanatorium matters were better managed. The Chambers of Commerce lent the town one of the handsome iron dock sheds. This fine structure measures 100 metres in length, 22 metres in width and is 17 metres high. Here were sent the inhabitants of houses that were being disinfected. On entering each person was placed in a bathing machine, which had been brought up from the beach for this purpose, and was made to undress and to wash. The clothes were taken away and disinfected, new clothes being lent and very often given in their stead. With a rough wooden framework and some canvas the floor of the shed was partitioned off and divided into rooms, small and large, so that families might be

separated one from the other and a certain amount of privacy might be maintained. At one end of the shed there was an oven, and here meals were cooked; at the other end a separate partition was called the infirmary, and here those who were taken ill could be kept apart till the hospital ambulance came to fetch them. This sanatorium was opened on Sept. 5th and closed a few days ago. In all 296 persons slept there, and the greatest number present at any one time was eighty-six. It has been calculated that the cost for food &c. amounted to 1*s.* 3*d.* per day per head. It was difficult to persuade the people to leave their homes and go to the sanatorium, but when once there it was still more difficult to get them to return to their homes. All the inmates having come from houses infected with cholera, it was natural to expect that some among them were in the period of incubation. This expectation was realised in six instances. It is very important to note that all these six cases occurred within two days of their arrival at the sanatorium. In no case did the period of incubation last beyond two days. This experience is of course of too limited a character to enable any conclusions to be drawn, but it should be compared with what has been noted elsewhere under similar circumstances. Already the French authorities are convinced that the period of incubation for cholera does not extend beyond five days.

In coping with the cholera epidemic the authorities at Havre have possessed the inestimable advantage of a good supply of pure spring water. Formerly there was a private company which had the monopoly of the water-supply, but it was felt that the private interests of the company might clash with public interests, and in the spring of 1884 the town bought all the rights of the company, which had been conceded for a period of ninety-nine years. It was agreed that the town should pay to the company for the seventy-one years that still remained to complete the term of the concession the subscription for water which the company was receiving. The value was calculated on the average of the previous six years and amounted to the sum of £15,000 per annum. This is a very heavy tax on the town, but the number of subscribers to the water-supply have now increased and the receipts for the year 1891 were equal to £17,840. More important far than this profit of close on £3000 in the year is the fact that water is much more widely distributed.

Leaving aside for the moment the question of the water that may be required for the purposes of drainage, the most important consideration is that at Havre no other water is available save that given by the town. In most of the places I have so far visited there were by the side of the town water-supply, which was generally pure, any number of private wells or rain-water cisterns where the water was anything but pure. The danger has arisen from the fact that in many circumstances it is not possible to ascertain whether the water used came from the public supply or from some private source. At Havre this danger does not exist. Nearly all the water is taken at the source of the St. Laurent and brought to Havre in a closed aqueduct. This water is hard but pure, and the yield is 21,000 cubic metres per day. From five other and nearer springs 2500 cubic metres more of water are secured and brought to Havre. At first it was thought that the cholera was due to the contamination of one of these minor springs, but on analysis it was shown that the water was only a little harder than that of the St. Laurent. Also, and this is more to the point, the district to the north-east of Havre supplied by these minor springs is almost entirely exempt from cholera. As for the water of the St. Laurent, it was drunk equally in the districts where there were the greatest number of cases of cholera and in the districts totally exempt from the disease. Under these circumstances the water-supply of Havre cannot be regarded as a factor in the spread of the epidemic; and by and by I shall have an opportunity of showing that this is the case not only in respect to the cholera, but also to other diseases, notably typhoid fever.

As Havre is the second seaport town of France, and, in normal times, a large number of ocean-going passenger-ships leave this port, it is a matter of international interest that these ships should have on board pure water. The water on board ships, as well as the passengers the ships carry, may be a means of spreading disease. But it is not necessary to point out how essential it is that only the purest water should be used during a sea journey. The fact now to be noticed is that at Havre, where so many sanitary defects exist, there is at least this one great advantage—a supply of water free from contamination, and there is no other and less pure source at hand. Thus there is no danger that through ignorance, carelessness or for motives of economy impure water should be given instead of the spring water provided by the town.

Havre, Oct. 23rd.

CHOLERA IN AUSTRIA-HUNGARY.

The first case of cholera occurred in Vienna on Oct. 21st, when a coachman who was working on the Danube embankment was taken ill with symptoms of acute gastro-enteritis and was brought to the hospital for epidemic disease, where he died on the 26th. The bacteriological examination made by Professor Weichselbaum proved the presence of cholera bacilli and at the post-mortem examination the case was declared to be one of cholera Asiatica. In this case the patient had drunk large quantities of Danube water before his admission to the hospital, and it is believed that the infection may have been due to this influence. Fortunately the population of Vienna has not to rely on the drinking of Danube water, which would prove by this fact to be a source of cholera infection, and the navigation on the Danube will be stopped this week to prevent dangers arising from this side; but there are so many industrial and trading establishments situated on the embankments of the Danube that sporadic cases of cholera may be expected to occur there. Two other cases of suspected cholera were also brought to the hospital for epidemic diseases on Tuesday, but the bacteriological examinations have not yet been concluded. In one of the suburbs of Cracow Piaskiwielkje, 12 cases of cholera have occurred during the last week, and sporadic cases were observed in some of the Polish villages near Cracow. At Budapest cholera showed the same morbidity and mortality as in the previous weeks, and 20 to 25 cases with 12 to 18 deaths are reported there daily; and at least 50 cases are occurring daily in the different towns and villages which have been infected already from the capital. Southwards it has reached Semlin, the town opposite to Belgrade; eastwards Temesvar, and northwards Pressburg. Two sporadic cases of cholera have occurred in Bohemia, both having been reported from Germania and Galicia. Three suspected cases have occurred at Pettau (Styria). It seems also that the germs of the disease are widely dispersed in the water of the rivers, and a Cracow physician was able to get cultures of comma bacilli out of the water of the Vistula river far away from Cracow. One of the most recent discoveries relating to the bacteriology of cholera, made some time ago by Professor Hueppe of Prague and his assistant, Dr. Scholl, has been disproved here by the experiments made by Professor Max Gruber of Vienna. Professor Hueppe had made cultures of the cholera microbes in hens' eggs, which were closed after their inoculation with the bacilli and exposed to the heat of the incubator; and he had maintained that by intra-peritoneal injection of the cultures thus obtained from the egg albumen all the characteristic symptoms of cholera could be obtained. Dr. Scholl then tried to separate the poisonous principle produced by the action of the bacilli in the egg albumen by treating it with water and alcohol. He obtained an aqueous extract which when injected into the peritoneum of animals produced severe symptoms of poisoning, especially paralysis of the muscles. But he had omitted to make control experiments with fresh, not infected, pure egg albumen treated in the same way. These control experiments have now been made here by Professor Gruber, and proved that by the method of Dr. Scholl a highly poisonous albuminoid body could be obtained even from perfectly fresh egg albumen.

THE ROYAL BRITISH NURSES' ASSOCIATION.—Sir William Savory presided at a meeting of the council of this Association on the 21st inst., at 20, Hanover-square. Princess Christian was also present. After the presentation of the report of the executive committee Dr. Bedford Fenwick briefly narrated the history of the labours of Miss Kate Marsden among the lepers of Siberia, and announced that the council had decided to bestow upon that lady the silver medal of the Society. The decoration was then pinned by Her Royal Highness upon the breast of the recipient of the honour, and the Princess read a statement expressive of her gratification that two of the members of the Society, Misses Annesley and Henrietta Kenealy, had distinguished themselves by the efforts they had put forth on behalf of the sufferers from cholera at Hamburg.

THE ASSOCIATION OF FELLOWS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A MEETING of the Committee of the Association of Fellows of the Royal College of Surgeons of England was held at 5.30 P.M. on Oct. 20th, 1892, at 36, Grosvenor-street, Mr. George Pollock, President, in the chair. There was a very full attendance. Letters of regret at inability to be present were read from Mr. Mayo Robson, Mr. Purnell, Mr. Vincent Bell, Dr. W. J. Collins and Mr. A. T. Norton. The minutes of the previous meeting, which had been held over for confirmation, in order to allow of the entry of important letters referring to certain matters at issue between the Association and an official of the Royal College of Surgeons, were read and confirmed. At the previous meeting a subcommittee, consisting of the President, Mr. T. Holmes, Mr. John Tweedy and the honorary secretary, was appointed to draft a reply to statements made by the gentleman referred to in substantiation of allegations reflecting upon the accuracy of documents issued by the Association. The subcommittee met on Oct. 15th and now presented the draft reply. This reply was considered clause by clause, carefully revised and unanimously passed. The honorary secretary was directed to have it type-written in the amended form and forwarded without delay to the official of the College. The Committee sat till 7 P.M., when it adjourned, there being no time for further business.

THE LATE SUPERINTENDENT OF THE ROYAL INFIRMARY, EDINBURGH: DEPUTY-SURGEON-GENERAL FASSON.

THE Army Medical Department may well feel proud of the late Deputy-Surgeon-General Fasson, who received his training in the Army Medical Service.

At the meeting of the Board of Managers of the Edinburgh Royal Infirmary, held on Monday, the following minute commemorating the services of the late Deputy-Surgeon-General Fasson was approved of :—

"The managers record their sense of the great loss sustained by the Royal Infirmary in the death of Mr. Fasson. Appointed superintendent of the infirmary in 1871, he brought to the work of his office a combination of gifts and experience which singularly fitted him for its important duties, and these he has throughout discharged with eminent ability, unwearied assiduity, and well-deserved success. That work included the difficult and responsible task of transferring the infirmary to the present buildings, and the reconstruction, to a large extent, of its administrative department. Yet by no startling change, but by the steady introduction of improved methods of which he had satisfied himself was reform carried out. Ever intent on schemes for securing smoother and more efficient working of the hospital, he gladly welcomed and adopted suggestions from any quarter which tended in this direction. Firm in his administration, exact in his demands upon himself, and expecting equal fidelity and efficiency in others, his relations to all whose duties he had to superintend were distinguished by great consideration and courtesy. It was in no small measure due to the practical sagacity and foresight of Mr. Fasson that the fever wards of the infirmary were in 1885 transferred to the city authorities—a change which, as the event has proved, has been greatly to the public advantage. The nursing department of the infirmary underwent entire reconstruction during Mr. Fasson's tenure of office. This was a work in which he took a profound interest, and the high position which the Royal Infirmary now holds among hospitals as a training school for nurses owes much to his ever-ready and hearty sympathy and coöperation. In providing the nurses with adequate accommodation Mr. Fasson warmly interested himself, and the building of the new home, now nearly completed, was undertaken by the managers largely upon his strong recommendation. The arrangements for its furnishing and occupation were engaging his attention in the last days of his life. The tone which happily pervades every department of the noble institution with which Mr. Fasson was so long and honourably connected is undoubtedly to be ascribed to the influence which he quietly but most effectively exercised. Of Mr. Fasson's personal qualities it is impossible to speak too highly. His gentleness, his perfect fairness, his unvarying courtesy and his tenderness of heart endeared him to all by whom he was known. These qualities ever worked outward from what were the dominating influences of his life—high principle and Christian character. The managers share deeply in the feeling of personal loss which Mr. Fasson's death has evoked in all who in any capacity minister within the walls of the infirmary, and they are keenly sensible of the very difficult duty which, through his death, has devolved upon them of finding a superintendent worthy to succeed him. They resolve that an extract of this minute shall be sent to his afflicted family, with the assurance of the managers' heartfelt sympathy with them in their bereavement."

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6280 births and 3524 deaths were registered during the week ending Oct. 22nd. The annual rate of mortality in these towns, which had been 17·8 and 17·3 per 1000 in the preceding two weeks, rose again last week to 18·0. In London the rate was 17·7 per 1000, while it averaged 18·3 in the thirty-two provincial towns. The lowest rates in these towns were 7·9 in Croydon, 12·4 in Birkenhead, 14·1 in Derby, and 14·9 in Halifax; the highest rates were 21·3 in Burnley, 21·7 in Leeds, 22·9 in Oldham, and 23·0 in Preston. The 3524 deaths included 387 which were referred to the principal zymotic diseases, against numbers declining from 991 to 389 in the preceding seven weeks; of these, 94 resulted from diarrhœa, 88 from measles, 68 from diphtheria, 58 from scarlet fever, 46 from "fever" (principally enteric), 29 from whooping-cough, and 4 from small-pox. These diseases caused the lowest death-rates in Birkenhead, Wolverhampton, Bristol, and Blackburn; and the highest rates in Salford, Plymouth, Oldham, Sunderland, and Preston. The greatest mortality from measles occurred in Croydon, Plymouth, Oldham, Leicester, and Salford; from scarlet fever in Plymouth and Swansea; from "fever" in Preston and Sunderland; and from diarrhœa in Bradford, Norwich, Sunderland, and Preston. The mortality from whooping-cough showed no marked excess in any of the large towns. The 68 deaths from diphtheria included 41 in London, 5 in Birmingham, 4 in West Ham, and 4 in Manchester. Two fatal cases of small-pox were registered in Oldham and 2 in Halifax, but not one in any other of the thirty-three large towns; 3 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and 2 in the Highgate Small-pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 3936, against 3515, 3628 and 3797 on the preceding three Saturdays; 484 new cases were admitted during the week, against 412 and 503 in the preceding two weeks. The deaths referred to diseases of the respiratory organs in London, which had increased from 114 to 241 in the preceding seven weeks, further rose to 267 last week, but were 72 below the corrected average. The causes of 82, or 2·3 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bolton, Leeds, Sunderland, and in six other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Preston, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18·5 and 18·0 per 1000 in the preceding two weeks, rose again to 19·0 during the week ending Oct. 22nd, and was 1·0 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 8·6 in Perth and 14·1 in Dundee to 20·4 in Aberdeen and 25·1 in Edinburgh. The 529 deaths in these towns included 39 which were referred to measles, 15 to scarlet fever, 14 to diarrhœa, 10 to whooping-cough, 5 to diphtheria, 4 to "fever," and not one to small-pox. In all, 87 deaths resulted from these principal zymotic diseases, against 78 and 75 in the preceding two weeks. These 87 deaths were equal to an annual rate of 3·1 per 1000, which exceeded by 1·1 the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had increased from 12 to 33 in the preceding four weeks, further rose to 39 last week, of which 26 occurred in Edinburgh, and 10 in Aberdeen. The deaths referred to scarlet fever, which had been 16 in each of the previous two weeks, were 15 last week, and included 8 in Glasgow, 3 in Edinburgh, and 2 in Paisley. The 10 fatal cases of whooping-cough exceeded by 2 the number in the previous week, and included 5 in Glasgow, 3 in Edinburgh, and 2 in Paisley. The deaths from diphtheria, which had declined from 10 to 2 in the preceding three weeks, rose again to 5 last week, of which 2 occurred in Aberdeen. The 4 fatal cases of "fever" differed but slightly from those

recorded in recent weeks and included 3 in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns, which had been 84 and 82 in the preceding two weeks, rose again to 97 last week, and were within one of the number in the corresponding week of last year. The causes of 49, or more than 9 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 20·0 and 20·7 per 1000 in the preceding two weeks, declined again to 19·4 during the week ending Oct. 22nd. During the first three weeks of the current quarter the death-rate in the city averaged 20·0 per 1000, against 17·1 in London and 20·9 in Edinburgh. The 130 deaths in Dublin during the week under notice showed a decline of 9 from the number in the preceding week, and included 4 which were referred to diarrhœa, 2 to "fever," one to whooping-cough, and not one either to small-pox, measles, scarlet fever, or diphtheria. In all, 7 deaths resulted from these principal zymotic diseases, equal to an annual rate of 1·0 per 1000, the zymotic death-rate during the same period being 1·8 in London and 7·9 in Edinburgh. The fatal cases of diarrhœa, which had declined from 20 to 3 in the preceding three weeks, were 4 last week. The deaths referred to different forms of "fever," which had been 2, 3, and 4 in the preceding three weeks, declined again to 2 last week. The 130 deaths registered in Dublin last week included 31 of infants under one year of age and 32 of persons aged upwards of sixty years; the deaths of infants showed a slight decline, while those of elderly persons slightly exceeded those recorded in the preceeding week. Two deaths from violence, but no inquest cases, were registered; and 29, or nearly one-fourth, of the deaths occurred in public institutions. The causes of 17, or more than 13 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

THE EFFECT OF THE LEBEL RIFLE.

To military surgeons and others who have been experimentally studying the effect of different arms of precision and of bullets of small calibre with high initial velocity on the carcases of dead animals the experience gained by the French in the war in Dahomey will be of much interest. Everything appears to depend upon the distance at which these small-bore bullets are fired. At a great distance they inflict very clean wounds, which might not be fatal unless some vital part were struck and their "stopping power" might, it is supposed, be relatively small. But at short distances their effect is very different, and the wounds are said to resemble those made by explosive bullets. According to the somewhat sensational description of the first encounter of the French expeditionary corps in Dahomey with Behanzin's forces, published in the *Figaro*, the effects of the Lebel rifle were a revelation for everyone. The largest trees afforded no shelter for the enemy, for they were pierced right through; and it is difficult for those who have not actually seen it to form any idea of the nature of the wounds and the rending action of the projectile on the human body. As the correspondent of the *Figaro* mentions that the attacking force numbered about 4000 men and that the attack itself was of the nature of a surprise the distance which separated the Dahomey native force from the French was inconsiderable—barely more than thirty yards from the tents of the headquarters' staff—at the first onrush—when the fighting was most severe and the destruction caused by the Lebel rifle greatest. The official account of the battle and further particulars as to the effect of the Lebel weapon will probably furnish us with more correct information than we possess at present.

MOVEMENTS OF MEDICAL STAFF.

SURGEON-MAJOR JAMES has been transferred from Shorncliffe to Windsor. Surgeon-Major Ring has resumed duty at Belfast. Surgeon-Lieutenant-Colonel Duke has assumed charge of the Station Hospital at Canterbury. Surgeon-Captain Wiles has joined at Worcester. Surgeon-Captain Long has resumed his duties at Sierra Leone after sick leave. Surgeon-Captain Kay has succeeded Surgeon-Captain Cotrell in Medical Charge of the Women and Children's Hospital at Chatham. Surgeon-Captain Stanistreet has joined at Dover for duty. Surgeon-Lieutenant-Colonel Hensman and Surgeon-Captain Hamilton have arrived with the 1st Life Guards at Shorncliffe.

REGULATIONS IN INDIAN SERVICE.

We understand that the medical officers proceeding to India to carry out the reliefs this trooping season are not detailed to specific presidencies as heretofore, but are for service in India generally, their destination being left in the hands of the authorities in India. This change, dictated presumably by local requirements, appears at the first blush an unmixed evil as far as the officers themselves are concerned, for choice of presidencies, when permitted, was doubtless a great privilege; but, on the other hand, when there was no choice—which must frequently have happened—the whole tour of service had to be performed in the presidency apportioned, whereas it may be assumed that under the new system changes from presidency to presidency will be constant.

ARMY MEDICAL STAFF.

Surgeon-Lieutenant-Colonel Oscar Frederick Molloy retires on retired pay. Surgeon-Major John Edward Vaughan Foss, from half-pay, to be Surgeon-Major. Surgeon-Major-General G. L. Hinde, C.B., having attained the age of sixty, will be placed on retired pay.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain David Edgar Flinn, F.R.C.S. Irel., to be Surgeon-Major.

INDIAN MEDICAL SERVICE.

Surgeon-Captain F. P. Maynard, 13th Bengal Infantry, has been granted leave to proceed out of India on private affairs. Subject to Her Majesty's approval the following Surgeon-Lieutenant-Colonels to be Brigade-Surgeon-Lieutenant-Colonels:—A. S. Lethbridge, M.D.C.S.I., A. Stephen, M.D., and J. H. Newman, M.D. Surgeon-Lieutenant-Colonel F. Lyons, M.D., is transferred to Poona district and appointed to the Medical Charge of Station Hospital, Poona. Surgeon-Lieutenant-Colonel J. Riddick, on arrival from England, is appointed to the Medical Charge of Station Hospital, Colaba, vice Surgeon-Lieutenant-Colonel F. Lyons, M.D., transferred to Poona. Surgeon-Major W. A. Simmonds has assumed Charge of the Civil Medical duties of the Hazara district. Surgeon-Captain F. R. Ozzard has assumed Charge of the Civil Medical duties of the Kohat district. Surgeon-Lieutenant-Colonel Edward Mulvany and Surgeon-Major George Augustus Cones have retired. The Queen has approved of the following admissions to Her Majesty's Indian Medical Service, to be Surgeon-Lieutenants:—Bengal: Patrick Balfour Haig, Thos. William Archer Fullerton, Ralph Henry Maddox, Edward Victor Hugo, Harry George Melville, Arthur Oldham Hubbard, Charles George Robson Scott, Herbert Austen Smith, Douglas Richard Green, Geo. McIver Campbell Smith, Hubert Malins Earle and Joseph Geo. Hulbert. Madras: Pulteney Charles Gabbett and John Lewis Macrae. Bombay: Francis Edwd. Swinton, Sidney Harvey Burnett and Thomas Jackson.

VOLUNTEER CORPS.

1st Lincolnshire (Eastern Division, Royal Artillery): Surgeon-Lieutenant E. B. Reckitt is promoted to Surgeon-Captain.

THE LATE SURGEON-GENERAL MILLS CANNON.

We regret to have to announce the death of Surgeon-General Henry Mills Cannon, in his seventy-third year. He died at his residence, 10, Eaton-place, S.W., on the 12th inst. The deceased, who entered the Army in 1846, served in the Punjab Campaign of 1849–50, and was present at the actions of Ramnuggur, Chillianwalla, and Goojerat, receiving for his distinguished services a medal and three clasps. He earned the thanks of the Supreme Government and of the Local Government of the North-Western Provinces for services in the Rohilkund and Meerut Divisions during the Mutiny period. He was also recommended by the Commander-in-Chief for brevet promotion, and a good-service pension of £100 a year was conferred on him.

DEATH OF SURGEON-GENERAL H. R. OSWALD, M.D.

We regret to record the death at Edinburgh of Surgeon-General H. R. Oswald, M.D., after a lingering and painful illness, on Oct. 15th last. Dr. Oswald entered the Indian Medical Service as assistant surgeon in 1850, and was employed in the Madras Presidency. Having undergone the usual experiences in different stations of a junior surgeon, he was appointed for a brief period to attend Dr. Dealtry

Lord Bishop of Madras, on his tour of visitation. Subsequently, in 1853, he was transferred from B Troop, Horse Artillery, to proceed on active service in Burmah under the officer commanding the Madras Division of the Army of Ava. He served in the second Burmese war till invalided from the Pegu Division back to Madras, and in 1854 obtained special civil employment in the Mysore Commission, of which he obtained full medical charge in 1865 at Bangalore. His promotion to the rank of Surgeon-Major followed in 1870, but he continued his civil duties till 1876, when he was raised to the administrative rank of Deputy Surgeon-General and once more found himself in Burmah. In 1879, however, Dr. Oswald was made Surgeon-General of the Madras Presidency with temporary rank. His retirement with the rank of Surgeon-General took place in 1881. previously to which he had been in charge at Secunderabad of the Hyderabad Subsidiary Force and Hyderabad Contingent. Such is a brief record of an active life always marked by an able and conscientious discharge of duty In his various capacities—civil, military or social—Dr. Oswald obtained the esteem and respect of his seniors and the love of his subordinates. Graceful in bearing, of a fine appearance, courteous in manners, and unvarying in kindness, few officers in his service have obtained a wider or better deserved popularity than his—a popularity which attended him also in private life. His loss will be mourned by a wide circle of friends both in and beyond his profession as well as by his family.

ARMY COMPETITIVE EXAMINATIONS AND PHYSIQUE.

We are glad to notice that our "Service" contemporary, the *Broad Arrow and Naval and Military Gazette*, has called attention to the question of the value which should be attached to physical qualifications at entrance examinations for the military services. Whilst recognising the difficulty of devising a practical scheme for carrying this out, we nevertheless consider that superior physical qualities should certainly count for something in a candidate for a commission in the army; whereas at present a candidate who is, as far as physical qualifications go, a well-grown, fine young fellow, proficient in manly games and exercises, enjoys no advantage over other candidates whose physical qualifications perhaps only reach the required minimum standard. No doubt mental and physical energy are frequently combined in men of small stature, and it would be easy to cite instances of such who have distinguished themselves in all walks of life, including the army and navy. Still, the possession of physical attributes, manliness and vigorous health are most important qualifications for a soldier, and our system of competitive examination takes no account of these, except to exclude those who are unfit in this respect, and the youth who is perhaps a bookworm with good receptive faculties enjoys a manifest advantage over other and more desirable candidates in every other respect. It does not at all follow either that the youth who successfully passes a competitive examination will develop any intellectual superiority later on. Anyway, mental and physical powers are Nature's gifts, and as regards army candidates both are valuable; but only one is at present taken into account. There should not be any insuperable difficulty, we imagine, in devising a scheme by which very desirable candidates, as far as physical qualifications are concerned, with school certificates of proficiency in out-door exercises and games, should have a limited number of marks assigned them as the result of their physical examination. Some regulation might be framed by which youths of a given height, chest measurement and weight at different ages would be entitled to a certain number of marks, provided they were in all other respects physically fit and produced certificates of the kind we have indicated.

THE RUPEE.

Medical officers and others serving in India will be glad to learn that the Viceroy of that country has received a dispatch from the Secretary of State for India announcing that an India Currency Committee has been appointed under the presidency of Lord Herschell. The members of the committee are Mr. Leonard Courtenay, M.P.; Sir Thomas Farrer; Sir Reginald Welby, Permanent Secretary of the Treasury; Lieutenant-General Strachey; Mr. Currie, Member of the Council of India; and Mr. Arthur Godley, Permanent Secretary of the India Office. Lord Herschell was president of the Gold and Silver Commission of 1887 and 1888. The problem to be solved is no doubt an extremely difficult one, but we trust that some solution will be arrived at, as the present rate of exchange and the depressed value of the rupee grievously affect the pockets of Europeans serving in India.

THE GERMAN ARMY BILL.

There appears to be a good deal of trouble hatching in Germany over the new Army Bill, the object of which is to decrease the length but to increase the strength of the military service by an enormous addition to the army of that country. Action and reaction follow one another in politics as in physics. The first Napoleon, by exacting that Prussia should only have a limited standing army, gave rise to the development of the German system of organisation which played such an important part in the Franco-German war of 1870, and the loss to France of Alsace and Lorraine has since led to the huge and increasing armies that have been since maintained in both those countries and in the rest of Europe. The addition that will require to be made to the medical service of the German army in the event of the new Bill passing, which does not seem probable, must be very considerable, and the amount of medical aid of all sorts that will be necessary in any actual campaign in future, with all the advances which have been made of late in the art of war, will severely tax the powers of any nation.

CHOLERA IN INDIA.

As regards the occurrence of the outbreak of cholera at Murree that was attended with a disastrous death record, to which attention was called in THE LANCET of the 15th inst., it appears, according to the Indian papers, that it is to form the subject of investigation. The cause of the outbreak was alleged by some to be attributable to importation, the disease having been conveyed by two regiments of Kashmeri infantry and a battery of artillery, who were subsequently attacked with cholera, having been allowed to pass from a district where that disease was prevailing through military camps and the station of Murree. On the other hand, it was rumoured—but with what degree of truth we do not know—that the use of contaminated water in the manufacture of soda-water was the cause of the attacks. The *Times of India* calls attention to a report by the Sanitary Commissioner of the North-West Provinces and Oudh, detailing the success which attended the sanitary arrangements that were made for the great Hurdwar fair last year. About three-quarters of a million of Hindoo pilgrims assembled to bathe in the sacred pool of the Ganges; but in consequence of the precautions that were adopted and the extreme care that was taken no epidemic or outbreak of cholera occurred, nor was the disease transported to other localities. This was contrary to the experience of previous gatherings of the kind. The Sanitary Commissioner considers that the experience obtained in 1891 proves that the disease is preventable by the adoption of due precautions and the immediate application of measures for arresting the spread of infection. The Government of the North-West Provinces, however, while giving every credit to the Sanitary Commissioner for the success of his sanitary measures on that occasion and recognising their immense importance in such cases, nevertheless hold that they are not necessarily effective in preventing the spread of the disease, and, by way of illustration, refer to their experience in connexion with another great native gathering where the same measures were followed without a similar amount of success. The Government of the North-West Provinces apparently would rather put their trust in dispersing fairs and turning back pilgrims on their way thither, and have applied to the Government of India for legislation to give them the power to do this whenever considered necessary. These pilgrimages are great religious ceremonies, and, it is presumed, could not be stopped without causing great fanatical discontent, otherwise their suppression altogether would probably be the best course to be adopted.

ALLEGED DEATH OF AN OFFICER FROM EATING TINNED FISH.

It is alleged as the result of a post-mortem examination on the body of Lieut. W. Huddleston, R.E., who was recently found dead in his bed at Chatham that death was the result of blood-poisoning caused by eating tinned fish. The deceased officer is stated to have complained of feeling ill shortly after having partaken of the tinned fish in question. The death of this young officer has given rise to much regret and sympathy in the garrison.

HOSPITALS IN INDIA.

The *Globe* of the 22nd inst., in an article on this subject, remarks that the institution of hospitals in India must be

regarded as one of the beneficial results of British supremacy and gives many instances of their good effects on the people and princes of India. It is not forgotten, our contemporary says, that some of the earlier and most important concessions to the Honourable East India Company were obtained by Surgeon Gabriel Broughton in 1645 for professional services rendered to the Mogul Emperor Shah Jehan. Some of the larger hospitals date from the period of the Governorship of Warren Hastings, when the whole service of civil hospitals was reorganised. Now this system of civil medical institutions, hospitals and dispensaries has attained enormous proportions, there being in 1890 1641 such, treating 265,000 in-door patients and 11,978,000 out-door, or a total of 12,243,000. It is worthy of note, while we in London are somewhat recklessly multiplying the facilities for medically helping those who can help themselves, it has recently been proposed in India to withdraw all Government aid from medical institutions in large and wealthy localities, which, having been taught the value of hospitals and dispensaries, ought to take on themselves the whole burden of their support.

Correspondence.

"Audi alteram partem."

"MEDICAL AID ASSOCIATIONS."

To the Editors of THE LANCET.

SIRS,—A licence to practise medicine for gain carries with it the privilege of so doing; the privilege belongs to the licence and without the licence the privilege does not exist. Medical aid associations are unqualified bodies carrying on practice and as a rule make considerable profits thereby. Whatever their aim or original intention might have been, I have shown elsewhere they, as a rule, make these profits. From these considerations the question arises: Is it not the confusion of the privileges of a qualified person and of an unqualified body of persons which originates the special pleading on behalf of these medical aid associations? A qualified man may legally carry on practice with a view to profit-making; he may invest his capital in such an undertaking, or by his skill create both capital and revenue; and he may properly employ such assistance at the current market price as necessity may demand. But is it right or proper for a body of unqualified persons to do these things? And if so, wherein is the value of a qualification? This is done, however, at the present time by medical aid associations under cover of a qualified man or in partnership with him, and the definition of the technical word "covering" must be very restricted indeed, in order to be rendered inapplicable to the condition of affairs.

The line of defence of the system of medical aid associations adopted by interested persons opens a very fine field for the profitable employment of capital, and before long we may have this field exploited, for things are already shaping in that direction. Upon the principles urged by your correspondent a company may run one or more medical practices for gain by employing qualified practitioners at a fixed salary. All the net profits will belong to the company, and as the directors do not personally practise it is alleged that the doctor does not cover them, nor is any professional offence committed. Based upon these principles it will be seen that a very taking prospectus could be drawn, and such a document might point out the following considerations amongst others: "The objects and conduct of the company will be similar to those at present adopted by medical aid associations—viz., to provide the thrifty poor, and especially the public generally, with excellent medical advice and medicine at a purely nominal price; and the scheme gives promise of large and increasing profits. It has been decided that there is no technical or legal objection to the course the company proposes to adopt, and as the proprietors and directors will not personally practise, no legal or professional offence is committed, and there is no possibility of any question of covering or other offence being raised in connexion with the business of the company. It has in fact been justly urged that such a contention is childish. It is intended to begin operations by the organisation of one hundred practices only, and for this purpose the services of a hundred duly qualified men will at once be secured. It has been ascertained that the cost of these will be about £150 per annum each, rising, as the trade of the company develops, to £250. The other expenses, house rent, advertising &c., will amount to a similar sum; while directors' and managers' fees will not exceed £5000 a year. For a sum of £35,000, therefore, the first hundred practices will be fully equipped and maintained during the first year. It is expected that on the first year's trading a loss will result; that during the second year income and expenditure will balance; and that after this large and increasing profits will result. As the directors will be entirely beyond the disciplinary control of any authority, the company will have the advantage of unrestricted advertising and canvassing, and a contract has already been entered into, dated Oct. 22nd, 1892, by which admirably displayed advertisements will be posted by Messrs. Billhead and Co. As the salaries of the medical officers will be a fixed sum the proprietors will be in the happy situation of possessing the surplus profits, which under the old system belonged to the private practitioners. This fixed-wage system, too, will enable the company to supply excellent advice and medicine at prices very far below those ever offered to the public, and it is believed that very large profits will be made on farthing consultations. No injury will be done to the medical officer, for he will be in the desirable position of being in receipt of a fixed income, which is more than he could get in private practice, otherwise he would not accept it. It is true that the result of our system will probably be to transfer to the pockets of the shareholders profits generally acquired by the general practitioner and to degrade the profession of medicine; but, as we do not injure in any way our medical officers, these gentlemen tell us all other considerations may be ignored. Our medical officers will be bound down not to practise within the radius of the company's operations; and as this radius will, it is confidently believed, in a few years extend to every town in the kingdom there will be no fear of the company's permanent interests being injured by our medical men wishing to leave us or being dissatisfied when they are refused increased salaries. It has been ascertained from the experience of similar undertakings that one medical officer will be sufficient to deal with 3000 or 4000 patients. It is proposed to develop a very large midwifery practice by means of invitingly low fees, and if our medical officers should under the strain of night and day work permanently break down in health they will be, under existing circumstances, quite easily replaced without interruption to the company's business. It has been decided by worthy opinion that the term 'sweating' as applied to our desirable scheme is an unjust and improper one, and this view is shared by our prospective medical officers. The boon we offer to the public is so great that the scheme commends itself to all those who have the public interests at heart, and the suggestion that our work will act injuriously to the profession, and through it react upon the public, may be dismissed at once as prompted by selfish trade interests."

I will only add one word to this paraphrasis of your correspondent's arguments. The profession should with one united voice protest, as I, an individual unit in that profession, vehemently protest, against the astounding indecency of your anonymous correspondent's threat. The General Medical Council has been entrusted by the State with the preservation of our professional principles, and as in the past so will it in the future fearlessly discharge its sacred trust with the unanimous support of our great profession, unseemly threats of democratic opposition notwithstanding.

I am, Sirs, your obedient servant,

LESLIE PHILLIPS,
Secretary, Medical Defence Union (Limited).

Birmingham, Oct. 22nd, 1892.

To the Editors of THE LANCET.

SIRS,—Will you permit me to reply to a letter signed "Verax" in THE LANCET of last week, who endeavours to meet your charge "that the position we occupy in holding medical aid appointments is indefensible"? Before doing so, however, allow me to mention that Dr. Phillips has forwarded a copy of his letter to the General Medical Council and to the various resident medical officers. If "Verax" will only read this letter carefully through he will find that, if the recommendations contained therein are adopted, they will tend to improve materially the present position of the various resident medical officers ("Verax's" included), while having a tendency to prevent the further growth and development of these coöperative businesses. I cannot see, then, very much

for "Verax" to grumble about. In trying to place as roseate a complexion as possible on his present tenure of office your correspondent only tells half the story. I have had experience of several of these associations, having acted as locum tenens and assistant before accepting my present appointment as resident medical officer, which latter, I may say, I undertook "from sheer stress of circumstances." I am, therefore, in a position to supply some particulars which "Verax" has carefully ignored or left in the background. I may say I possess the acquaintance of many occupying a similar position to myself, and I have never yet met one who holds, or ever held, such an appointment that has not complained bitterly of the treatment received. The rules, management &c. of all these associations are based on similar lines. All the members of the association are generally supplied with a copy of the rules. There is one which is being continually brought under the members' observation—viz., "Complaints against the medical officer &c." From the copy which I enclose you can see it is somewhat similar to those generally placarded in omnibuses, so that to all intents and purposes, in the estimation of the management committee, a surgeon in this respect is placed on no higher a level than an omnibus conductor. It is no uncommon thing for me to be told—"You are our servant." "We keep you." "I will report you," &c. Does "Verax" consider that any medical man occupying a position of this character is upholding the dignity of the profession? It sometimes happens that members for very trivial causes lodge complaints with the managing committee, who, by the way, are empowered if they think proper to suspend you without a moment's notice. You are then duly summoned to appear before this august tribunal to meet the complainant. The latter is permitted to cross-examine the medical officer after making his statement, and in so doing the latter has to submit to the humiliating ordeal of being asked either by the complainant himself or his friends or the managing committee perhaps many insulting questions. Nothing, I assure you, Sirs, in my experience affords greater pleasure to some of these ignorant men than "sitting" on their intellectual superior. In one case I was reprimanded for being insolent to a member, the insolence consisting of a mild suggestion "that the said member might wash himself before coming to the surgery to see me directly from an offensive smelling occupapation he was following." I trust "Verax" is more fortunate and experiences none of these unpleasant incidents.

I contend that it is quite unprofessional, as well as illegal, for any medical man to barter away portion of his midwifery or vaccination fees to the association. If the managing or general committees pay themselves for attending quite (to my mind) unnecessary meetings out of fees so earned, I see very little practical difference between this and covering. The more fees the committees obtain the more frequently they go "up and down the town" extolling the excellent qualities of the association and their doctor—all for the purpose of "bringing more grist to the mill." From the vast numbers I have to see between visiting and at the surgery—sometimes as many as one hundred and fifty daily—I find that I am inevitably drifting into very careless habits in examination and diagnosis. I am painfully cognisant of the fact that one day, only a very short time ago, having a great number of people to visit, I overlooked a case of intussusception not having time to make a sufficiently careful examination. Here is a life that might have been saved had I been otherwise circumstanced. This is not I regret to say a solitary incident. There are many other points in connexion with our appointments which from the length this letter has already reached I am unable to touch upon.

I trust, in conclusion, "Verax" will have the good sense to abandon his present untenable position, and throw in his lot with his brethren in endeavouring to ameliorate their position and terminate a system which, as far as my experience enables me to judge, I have no hesitation in characterising as an injury to the profession, a fraud on the public, besides being disgraceful in a professional sense to every medical man who countenances it by lending his support.

I remain, Sirs, yours faithfully,

Oct. 26th, 1892. A MEDICAL AID OFFICER.

To the Editors of THE LANCET.

SIRS,—Certainly something should be done to rectify these growing evils, and I appeal to the General Medical Council for their support. In your article on Dr. Leslie Phillips's report you suggest that the remedy should come from individual members; but I maintain that it is useless looking for hope from that quarter, for though I hold one of these appointments I know perfectly well that if I resigned forty candidates are ready to take my place. A vigorous and determined stand should now be made, and, if aided by the Council, there should be no difficulty. Unless they are altered there will soon be no private practitioners, but plenty of "businesses" with patients as "customers."

I am, Sirs, yours faithfully,

Oct. 19th, 1892. L.R.C.P. LOND.

INTERNATIONAL MONUMENT TO SEMMELWEIS.

To the Editors of THE LANCET.

SIRS,—When I was preparing the Goulstonian Lectures on Puerperal Fever (1872), I was of course obliged to study deeply and widely its history. There was no point which interested me more than the claims put forward in favour of Semmelweis, and I think that I showed clearly to what extent such claims were justified. I found that these claims were advanced by those who were evidently not acquainted with the history of this subject and what had been done in this country long before the time of Semmelweis. I am not one of those who would discourage the expression of admiration for those who have worked unselfishly in the interests of science and humanity, but we must not sacrifice justice to generosity, otherwise more harm than good is done.

I am, Sirs, yours truly,

Savile-row, W., Oct. 24th, 1892. ROBERT LEE.

"COMPULSORY VACCINATION."

To the Editors of THE LANCET.

SIRS,—In reference to your paragraph about me I may say that I am not aware that I have made up my mind on the subject which I am investigating more than other members of the Commission. I held my present opinions long before I joined it and was appointed in succession to the late Mr. Bradlaugh because I was understood to hold similar views. I appeared before the Rochdale guardians as any other parent may do—my being a member of the Vaccination Commission was only a coincidence. I asserted that there are no known means of securing the purity of lymph or of limiting with certainty its inflammatory effects, and that serious results have occurred from vaccination. I also asserted that where isolation has been adopted it has been found effectual without vaccination, and when vaccination has been tried without isolation it has been found very ineffectual. Will any doctor deny these assertions? Small-pox is so rare that I think that the risk my unvaccinated children run of catching it is less than the risk of the injury which might come to them from vaccination, even supposing the protective powers of the operation to be as great as some think it is. I do not enter into the question as to how much the diminution of the disease is owing to vaccination and how much to better medical knowledge and improved sanitation—I speak of the present risk. I should not object to a Compulsory Isolation Bill.

I am, Sirs, yours truly,

Reform Club, Oct. 21st, 1892. JOHN A. BRIGHT.

*** If it were *possible* to have a *perfect* system of isolation in every part of the land there might be no need for other preventive measures; but certainly we cannot agree that up to the present time, where "isolation has been adopted, it has been found effectual without vaccination." As regards the comparative risks referred to by Mr. Bright, we would venture to suggest that it is not a mere question of "catching" small-pox, but of having it in a severe and dangerous form.—ED. L.

DEATH UNDER CHLOROFORM.

To the Editors of THE LANCET.

SIRS,—I have to report a case of death under chloroform which occurred at Stockport Infirmary on Friday, Oct, 21st. The patient was admitted into the infirmary suffering from carcinoma of the rectum. He was an old man (aged sixty-three) and much emaciated, and though the heart was rather weak, still there was no valvular disease. Both the patient and his

friends were very anxious that an operation should be performed. Lumbar colotomy was proposed. The chloroform used in this case was Duncan and Flockhart's. Patient had been inhaling the chloroform for ten minutes, when his breathing suddenly became very shallow and pulse hardly perceptible. The administration of the anæsthetic was at once stopped and artificial respiration commenced, ether injected hypodermically, the head was lowered, legs lifted up and nitrite of amyl in capsules held before the nose. All, however, proved of no avail, though artificial respiration was kept up for half an hour. We have had very few deaths under anæsthetics in this infirmary. In a case previous to the above mentioned, which happened two years ago, the anæsthetic employed was ether and the operation was also for carcinoma of rectum. In neither case had the operation been commenced.—I am, Sirs, yours faithfully,

H. R. BELLAMY, L.R.C.S. & L.R.C.P. Edin.
Senior House Surgeon to the Infirmary.

Stockport, Oct. 25th, 1892.

N.B.—The amount of chloroform used was only one drachm and a half.

EXPERIMENTS ON ANIMALS.

To the Editors of THE LANCET.

SIRS,—General practitioners will agree with Dr. Tyson in his appeal for facts in support of vivisection. What we need is something definite to put before our patients to justify the position taken by the medical profession on the subject. The public is in search of the truth, and when we know that amongst the public are such men as Lord Coleridge and the late Serjeant Ballantine trained in the analysis of evidence, it is the worst possible policy on our part to treat them as a pack of hysterical women. We must remember they have the whole literature of the subject before them, and that it is useless to say the painful experiments are few and the pain trifling. When the public see the rivalry between distinguished professors and the undisguised pleasure it gives one to show how that all the experiments conducted by a brother experimenter are futile, they look upon the talk about a deep love for humanity on the part of the scientist as cant. The scientist is human, like the rest of us; research is his work, and the discovery of a new law is more to him than the possible applicability of the law and the needs of the human race. The science of the physiology of the animal kingdom must, like that of astronomy or any other branch of knowledge, stand upon its own merits; and it is to be regretted that it has ever been thought necessary to call in the immediate applicability of its results and the practice of medicine to justify its pursuit. Let us be candid with the public, and we shall be on more secure ground. We cannot expect men like Browning, Manning, Ruskin and their successors to be put off with anything short of the truth.

I am, Sirs, yours truly,

Fulham, Oct. 25th, 1892. WM. F. CLARKE, M.D. Lond., B.S.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Small-pox.

THE recently published returns show that small-pox cases still continue to crop up in and around Manchester, the principal foci of the disease being Warrington and certain of the smaller Yorkshire towns which are uncomfortably near Manchester. At their last meeting the clerk to the Chorlton guardians reported the occurrence of two cases of small-pox in that union, a circumstance which naturally produced considerable uneasiness at the board, for the union seems to have been exceptionally free from this disease for a lengthened period. The guardians, however, had previously taken steps to encourage vaccination and revaccination in their district, and as the cases reported were promptly removed to the small-pox hospital it is hoped that the further spread of the disease will be prevented. If we may judge from the printed reports to be submitted to the Council at their meeting to-day, there seems to be an unfortunate hitch in completing the hospital accommodation for small-pox at Monsall. It appears that the two temporary sheds which were erected some few weeks since for the segregation of any cases of cholera that might possibly find their way hither from the Continent are to be utilised for the treatment of small-pox. The medical officer of health, however, will not sanction the use of these sheds for that purpose until they are surrounded by a high wall and provided with separate administrative buildings, so as to render the small-pox hospital absolutely independent of the fever wards and to secure its complete isolation from them.

The Chair of Surgery.

It is rumoured that Professor Hare is about to resign the chair of Surgery at Owens College, unhappily on the ground of ill-health. Mr. Hare has only held the professorship for about three years, but during that period he has devoted himself assiduously to the teaching of surgery, and he certainly has won the esteem and goodwill of the great body of the students who have been members of his class. His departure from Manchester will be much regretted by a wide and increasing circle of friends, both medical and lay, amongst whom his courteous bearing and unassuming conduct have made him a general favourite.

The Manchester Crematorium.

On Friday last a special meeting of the advocates and supporters of cremation was held in the grounds of the Manchester Crematorium, the Duke of Westminster being present as chairman. The attendance was considerable, and there is no doubt that public opinion in these parts is being gradually influenced in favour of cremation as a means of disposing of the dead. The speeches delivered at the meeting of last week were in good taste, and will probably do much to dissipate the not unnatural prejudice against cremation which still lingers in the minds of many of our most thoughtful and public-spirited citizens.

The Municipal Elections.

As the 9th of November draws nearer the usual preparations become apparent for the coming contest for vacant seats in our local parliament. Ours is the largest municipal council in the kingdom outside the metropolis, and consists, since the enlargement of the city by the Act of last year, of 104 members. As is usual at election times, there is a general protestation amongst the combatants that imperial politics are to have no weight in the selection of candidates for the several vacancies; and, equally as a matter of course, every candidate whose address has hitherto been published is well known to be the nominee of one political party or another. The so-called "labour candidates" who were sent into the Council some time since with a considerable flourish of trumpets do not seem to have turned out an unqualified success, and there are indications in some of the addresses recently issued that some other expedient is about to be tried for securing the due representation of the working classes on our municipal Council. Since the recent enlargement of the Council a considerably larger proportion of medical representatives has been returned than at any previous period on record. The Council now contains five members of the medical profession; and, as these gentlemen are in every case members of the sanitary committee, it is to be hoped that their influence on the operations of that committee will be in all respects salutary. A complete list of candidates for this year's vacancies has not as yet been published; but in a city where so very much still remains to be achieved before its sanitary condition can be regarded with anything approaching complacency it is much to be desired that the number of medical members of the city Council should be still further augmented. It must be kept constantly and prominently before our representatives in the Council that the death-rate of Manchester is still exceedingly high; and I hope that, whatever may be the result of the forthcoming elections as regards the balance of political parties in the Council, every member of that body will remember that the public is getting impatient at the continuation from year to year of the present needless sacrifice of human life.

Nottingham Medico-Chirurgical Society.

The inaugural meeting of the ensuing winter session was held on Friday, Oct. 21st, at 8.15 P.M., Mr. R. C. Chicken, F.R.C.S., President, in the chair. Dr. P. H. Pye-Smith, F.R.S., of Guy's Hospital, delivered an address on the Prognosis of Certain Diseases. The influences of age and sex on prognosis were considered in connexion with a large number of diseases. Chronic constitutional states often had an unfavourable influence on acute disease, this being marked in the case of chronic Bright's disease and diabetes. The importance of the gouty diathesis was, however, apt to be overrated. In conclusion the lecturer carefully examined

the prognostic import of some of the symptoms met with in the course of phthisis and typhoid fever respectively. The retarding influence of mitral stenosis or insufficiency on phthisis was fully considered. A cordial vote of thanks to the lecturer was passed, on the motion of Mr. Joseph White, seconded by Dr. Brookhouse. About fifty gentlemen were present.

Manchester Pathological Society.

The annual meeting of this Society was held at the Owens College on Wednesday, Oct. 12th, T. C. Railton, M.D., retiring President, in the chair. The following gentlemen were elected for the ensuing session:—President: J. S. Bury, M.D. Vice-Presidents: F. A. Southam, M.B., and W. Coates. Treasurer: W. Thorburn, B.S. Secretary: T. Harris, M.D. Committee: H. R. Hutton, M.B., T. N. Helynack, M.B., W. Milligan, M.D., R. Patrick, M.D., C. E. Richmond, E. Roberts, R. B. Wild, M.D., and J. B. Wolstenholme. Auditors: H. Lund, M.B., and A. T. Wilkinson, M.D. After receiving the report of the treasurer and committee a considerable portion of the evening was taken up with a discussion on certain recommendations of the committee. A considerable number of card specimens were shown by Dr. Bury, Professor Delépine, Dr. Thomas Harris, Dr. Hutton, Dr. Martin, Mr. Roberts and Mr. Wright.

Oct. 26th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Health Lectures.

THE Athletic Institute advertise a series of free health lectures. The first is to be given by Sir Andrew Clark on Saturday, the 29th, the subject being "The Religion of the Body." The chair is to be taken by Sir Walter Foster. At the annual meeting of the Birmingham and Edgbaston Debating Society on the 19th inst. Mr. Jordan Lloyd, the president, gave an address on "Some Errors of Civilisation," pointing out the nerve-strain entailed by the rate of living and its accompaniments in the present day. The facts of the discourse are indisputable, but it is not easy to find the remedy in the present constitution of society or to stem the tide of wear and tear in our surroundings.

Hospital Sunday.

The return of this anniversary on the 30th inst. brings reflections as to the growth and maintenance of the fund raised on the occasion. For years past the amount subscribed has been declining. The rival Hospital Saturday collection has diminished seriously that of the more sacred day, owing to the splendid organisation and method of collecting in workshops and factories. The eloquence of the divine can hardly compete with the activity of the commercial man, whose opportunities of obtaining contributions are of a more practical kind. The growth of Hospital Sunday appears to have followed that of most institutions in reaching an acme of development and then declining. This year the collections go to the General Hospital, and in the face of the earnest appeal for funds made by that charity it is hoped that a large sum will be realised.

The Mason College.

This College, with which is incorporated the Queen's Faculty of Medicine as representing the former medical school of Queen's College, has issued an elaborate and complete calendar. The information given is carefully and exactly worked out, and a varied programme of the different faculties enables any seeker for knowledge of the teaching details to find readily what is wanted. The subject of a midland university in connexion with this College has lately been receiving attention and finds favour in every quarter. There are arguments which would make such a scheme desirable in the interests of education in the midland counties. Meantime the requirements of medical teaching, at least, are provided for in a manner calculated to compare favourably with any other school in the kingdom.

Crime in Birmingham.

The chief constable's report for the year ending Sept. 29th has just been issued. The return consists of two tables, the first relating to offences indictable at quarter sessions and assizes; 965 crimes were committed, as against 950 last year and 901 in the year 1890. The second class relates to the magistrate's jurisdiction. Proceedings were taken against 14,795 persons, as compared with 14,043 in the previous year and 13,447 in 1890. Persons proceeded against for drunkenness show an increase of 273. It is true that the extension of the municipal boundaries makes some difference in the figures, but the evidence does not tend to show that crime is retrogressive in this best-governed city.

Oct. 25th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.

Memorial to the late Albany and John Hancock.

A TABLET to the memory of the late Albany and John Hancock has just been placed in the entrance hall of the Natural History Museum, Newcastle, by a number of their friends and admirers in recognition of their invaluable work of research in natural history. The tablet, which is a very handsome work of art in Sicilian marble, with a frame of Derbyshire alabaster, has been designed by Mr. Joseph Craggs, of this city, and bears the following inscription:—"To the memory of the Brothers Albany Hancock and John Hancock. Albany was distinguished for his anatomical researches among the invertebrata and received in 1858 the gold medal of the Royal Society for his investigations of the brachiopoda. John was celebrated as an ornithologist and for the lifelike character he gave to the birds which he preserved. It was through his personal influence that funds were obtained for the erection of this building, on the completion of which he presented his ornithological collection to the Natural History Society."

Tynemouth.

The report of the chief constable for Tynemouth for the past year has been published, and without some explanation it would in some respects be an alarming document. It shows that 1269 males and 372 females had been charged with drunkenenss—a heavy record for a town with a population under 50,000 were it not also shown that one-half were seamen who occasionally visit the port and visitors who come to Tynemouth on Sundays and holidays. The number of public-houses in the borough had been reduced during the year by six. With reference to persons arriving from cholera-infected ports, the *Newcastle Courant* says that the medical officer of the borough has complained of the delay that takes place after they come on shore before he is informed by the Sanitary Authority of their arrival. Each communication it seems has to pass through four different parties' hands before the medical officer receives it, three and four days thus elapsing, so it is suggested that in this very important matter some more simple and direct mode of procedure might well be adopted. The Tynemouth Corporation have decided to utilise the present infectious diseases hospital, should it be necessary, for cholera cases. For other infectious diseases they have decided to erect a new hospital, and are negotiating with the Duke of Northumberland's agent for a suitable piece of land in the outskirts of the borough.

Alnwick Infirmary.

The annual general meeting of the governors of the Alnwick Infirmary was held last week, Earl Percy presiding; 538 patients were treated during the year, and the financial state of the institution was good, the year closing with a substantial balance in hand.

The proposed Infectious Diseases Hospital at Keighley.

Messrs. Marshall and Dick of this city have been awarded the first premium for their plans for the Borough of Keighley (Yorkshire) Infectious Hospital. The competition was open to architects from all parts, and about thirty plans were sent in. The hospital has been designed to accommodate thirty beds, and separate wards of ten beds each have been planned for small-pox, typhoid fever and scarlet fever, besides the usual administrative department and residences for matron, nurses &c.

Death of the Deputy Coroner for South Northumberland.

Mr. Wm. Brewis Elsdon, Deputy Coroner for South Northumberland, died last week from acute pneumonia after a very short illness.

Deaths of Medical Men.

Dr. Andrew Gibb Russell, J.P., of Harrogate died at his residence in that town on Wednesday last after a short illness.—The death is also announced of Mr. R. P. Edger, of Helton-le-Hole, county Durham, in his ninety-fourth year.

Mr. Edger qualified as far back as 1828. I hope in my next letter to say more about his career.

Odds and Ends.

The annual dinner of the Newcastle Clinical Society took place last Thursday, and it passed off very successfully. Mr. Galloway of Eighton Banks presided.—Our medical officer of health states that for the fortnight ending the 15th sixty-seven cases of infectious disease were notified as occurring in Newcastle; of these, fifty-seven were cases of scarlet fever.—It is stated, as showing the pressing demand for chloride of lime during the late cholera alarm, that a few weeks ago it rose to £15 per ton, and although there is still a larger inquiry than usual for it and the manufacturers' stocks are small, the price has now fallen below £8 per ton on the Tyne.—Dr. Scott Purves, instructor of the ambulance class at Long Houghton, has received a presentation of a handsome piece of plate from the members of the class.—An earthquake tremor was experienced in Newcastle on Sunday night last.

Newcastle-on-Tyne, Oct. 26th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

General Council of the University of Edinburgh.

THE statutory half-yearly meeting of the General Council of the University of Edinburgh will be held in the University on Friday, the 28th, at 3 P.M. At this meeting the reports of the business committee, the ordinances committee and the finance committee will be considered in addition to other routine business. These reports and their fate at the Council will be referred to in detail after the meeting of the Council.

New Municipal Bill for Edinburgh.

A new Municipal Bill has been under discussion in the town council for some time. At a special meeting held in the beginning of this week several important provisions in the proposed Bill were considered and approved or left for further report and consideration. One of these was a clause providing for the removal of the slaughter-houses and cattle market beyond the city's boundary. This was remitted to the Lord Provost's committee. The next set of proposals bearing upon city improvements included proposals to open up and improve the property immediately adjoining the University new buildings. This especially referred to the property to the east of the University, which is in an indifferent condition, and from its proximity to the University mars considerably its architectural effect. The acquisition of this property by the town and its conversion into an open space would be a great improvement to the locality as a whole, as well as to the University buildings and the Students' Union. The proposals were opposed by a few of the Council, on the ground that it was done entirely for the sake of the University. This view, however, was not taken by many, and the proposals were carried by a large majority. The next proposals dealt with the acquisition of sites and the erection of refuse destructors. Permission is sought for the erection of four destructors within the city. This also met with a good deal of opposition, it being asserted that the destructors would be a nuisance in the localities in which they would be erected; this was denied by various members, including the Lord Provost, who referred to the Bradford destructors and said that they were worked without nuisance. Of course the carting of refuse would always be more or less of a nuisance, but it was that at present. These proposals were also carried.

Opening of the Royal Medical Society, Edinburgh.

On Friday evening of last week the new session of this Society was inaugurated by an address from Dr. Lauder Brunton. The chair was occupied by the senior President, Dr. Miles, and the lecturer was well received.

Health of Edinburgh.

The mortality last week was 123, making the death-rate 24 per 1000. Diseases of the chest caused 64 deaths and zymotic diseases 37, of which 27 were due to measles. The intimations were: Typhus fever, 1; typhoid fever, 4; diphtheria, 9; scarlet fever, 66; and measles, 296.

Pauper Infirmaries and Medical Students.

Professor Ogston, in performing the ceremony of opening a new infirmary for the Oldmachar Poorhouse, Aberdeen, spoke of the benefit which would accrue to the students, to the guardians of the poor and to the paupers themselves if the hospital were open for clinical purposes to students of medicine. Dr. Ogston continued: "I think I am quite correct in saying that the introduction of students into the wards will be found to have a still further humanising effect upon the institution; for the more advanced and more intelligent students, who would be those selected, are really the most admirable critics and suggestors in regard to all that is most beneficial in such an institution, and their attitude towards the poor becomes speedily of itself an extremely humanitarian agency." The chairman promised that Dr. Ogston's suggestions should have the consideration of the board.

Health of Aberdeen.

Last week there were notified 388 cases of measles, 33 of scarlet fever, 3 of diphtheria, 1 of typhus fever, 3 of whooping-cough, and 7 of erysipelas (a total of 435 cases), being a decrease of 10 as compared with the previous week.

Aberdeen University Extension Scheme.

At a meeting of the University Court held this week, after a long discussion, in the course of which several motions were proposed, that of the Lord Rector was carried by a large majority. His motion was that they proceed at once with the extension of the north wing and the front wing at Marischal College, and with the erection of a new wing for natural philosophy at King's College, and that the architect be instructed to bring up detailed plans for the new graduation hall and students' rooms and the addition to the anatomical department in Marischal College.

Northern District Asylum, Inverness.

On Tuesday the vacancy in the superintendentship of this asylum, caused by the death of Dr. Aitken, was filled by the appointment of Dr. Cumming Mackenzie, assistant superintendent of Northumberland County Asylum at Morpeth.

Death of Dr. Cran of Ballater.

Dr. Robert Cran (Ballater, Aberdeenshire) died suddenly after a few hours' illness at Wemyss Bay on Sunday, the 23rd inst. Dr. Cran had spent most of his professional life in Assam and had been but four years in practice in Ballater. At the time of his death he had been married only twelve days and was on his honeymoon.

Death of an Aberdeen Graduate in Egypt.

On Monday the sad news reached Aberdeen that Dr. William Smith Robertson died that morning at Port Said, where he held the appointment of senior medical officer in the Egyptian Government hospital. Dr. Robertson graduated at the University of Aberdeen in 1877. He was only thirty-seven years of age and leaves a widow, who sailed for Port Said last week to join her husband.

Oct. 25th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Royal College of Surgeons.

THE following address was presented to his Excellency last week:—

TO HIS EXCELLENCY LORD HOUGHTON, LORD-LIEUTENANT-GENERAL AND GENERAL GOVERNOR OF IRELAND.

MAY IT PLEASE YOUR EXCELLENCY,—We, the President, Vice-President, and Councillors of the Royal College of Surgeons in Ireland, desire to offer to your Excellency our most respectful congratulations upon the occasion of your Excellency's assumption of the high office which Her Majesty has entrusted to you. We beg to assure your Excellency that the College which we represent has, since its incorporation more than one hundred years ago by Her Majesty's Royal predecessor, King George the Third, been animated by sentiments of loyal devotion to the Crown and Government of the United Kingdom, by an anxious desire for the maintenance of prosperity and good order of the country, and by an earnest wish efficiently to discharge, by sound education and searching examination, the duties imposed upon it more than one hundred years ago in its original charter, to provide "a sufficient number of properly educated surgeons, as well for the service of the public in general as for that of our army and navy." The important public functions which were confided to this College by its charters have been discharged faithfully, and, we venture to hope, with success. Your Excellency's inherited, as also self-earned, claims to high literary distinction will enable you to estimate at its proper value the fact that this College, from its foundation up to the present moment, never has admitted to even its lowest qualification anyone who had not previously passed an examination in Arts; and its early recognition of the importance to the public weal of a knowledge of sanitary science may be inferred from the fact that some fifty years ago it instituted its Professorship of Hygiene. We trust that your Excellency will be pleased,

by visiting our College, and by inspection of its various departments, to satisfy yourself that it is in a condition to fulfil satisfactorily its duties to Her Majesty and the public.

The prizes obtained by students at the schools of surgery during the session 1891–92 will be awarded by Mr. Edward Hamilton, President of the College, at the opening of the winter session on Nov. 1st.

Royal College of Physicians.

The portrait of the founder of the College, Dr. John Stearne, S.F.T.C.D., presented by Dr. Samuel Gordon, was referred to briefly in these columns last week. The picture, which is a half-length portrait, is a copy by Mr. Catterson Smith, R.H.A., of the original in the possession of the University of Dublin. It represents the deceased in the scarlet gown of a doctor and a voluminous wig of the Queen Anne period, and must be regarded as a worthy addition to the portraits of distinguished Fellows possessed by the College.

Rotunda Lying-in Hospital.

An appeal has been made for funds to enable the governors to place the hospital in a condition of thorough efficiency worthy of its established and world-wide character. About £10,000 will be required to carry out the necessary alterations, and of this some £5000 have already been collected. It is purposed to erect a new building for the treatment of diseases peculiar to women; to provide suitable day and night accommodation for nurses, probationers and female students; to erect a lift to convey helpless patients to the wards and to provide lavatories, bath-rooms &c. The sum now required is not so much but that the charitable public could easily supply the necessary amount, and I hope that they will do so, for the institution is well worked and a credit to any city. I do not envy the feelings of those members of the corporation who refused the trifling grant of £250 to the hospital, and trust their act of intolerance may stimulate the charitable people of Dublin to aid and assist to the utmost an institution so worthy of support as the Rotunda Lying-in Hospital.

Oct. 27th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Legality of Bequests to Medical Attendants.

IN England one hears occasionally of a professional brother having his grief at the loss of a profitable patient by death attenuated by a more or less important legacy bequeathed him by the deceased. In France, such a compensation is, in most cases, out of the question, for, by the terms of Provision 909 of the Civil Code, a practitioner is debarred from inheriting from a patient whom he attended during his last fatal illness, provided the will containing the bequest was made during the said illness. It was, however, ruled by the Court of Cassation in 1834 that the above law did not apply to a doctor called merely in consultation. It is therefore necessary, in order to establish the nullity of a testamentary bequest made in favour of a member of our hard-worked profession, to prove—(*a*) that the would-be legatee was actually treating the patient; (*b*) that the bequest was made during the course of the disease, which (*c*) proved fatal. A short time ago the heirs of a gentleman were cited before the tribunal of Angoulême, at the instance of Dr. Fournier, to show cause why a legacy of 21,500 francs should not be paid to the doctor. Fortunately for our *confrère* he was able to show that, as he only replaced for a time the deceased's regular attendant, the validity of the bequest could not be impugned. I may mention that chemists, *sage-femmes*, and indeed any unqualified person who undertakes the care of a malady which proves fatal, enter within the scope of the above law. In the case, however, of a *sage-femme* in whose house a lady died the validity of a bequest made in favour of the midwife was upheld, it having been proved that a medical man called in was responsible for the treatment pursued.

Precautions against the Spread of Tuberculosis.

The Sanitary Commission of the 10th Arrondissement, which comprises the populous district radiating from the St. Louis Hospital, have, with the view of stemming the tide of tuberculosis, proposed the following measures: That the dwellings and clothing of tuberculous patients be submitted to the same process of disinfection as in the case of other contagious diseases; that all railway compartments, cabs and omnibuses, or at least the floors of such vehicles, be disinfected daily with a solution of zinc chloride. Manners as regards what may be dubbed public expectoration are disagreeably free amongst this otherwise very polite people, and this consideration, together with the undoubted contagiousness of tuberculosis, renders the purification of public conveyances very necessary. The Parisian has an unwholesome dread of fresh air when travelling, and the tyranny exercised by the lively but stuffy Gaul in the matter of sealed windows is well known to all British tourists.

A Congratulatory Banquet.

On Thursday last Dr. Pietra Santa, editor of the *Journal d'Hygiène*, was entertained at dinner at the Grand Hôtel by a large gathering of admiring colleagues, the occasion being the fiftieth anniversary of his appearance on the world's stage as a doctor of medicine. Dr. Pietra Santa's fearless advocacy of sanitary reforms during the many years he has directed his valuable journal rendered him worthy of such a compliment, the remembrance of which will be made more durable by the presentation of a handsome gold chronometer and chain. Numerous English *confrères* were amongst the subscribers. Another veteran in sanitary science was present in the person of Dr. Benjamin Ward Richardson, who triumphantly accomplished an unusual feat for a Briton—viz., delivering an admirable discourse in French. The opportunity was seized for commemorating the visit of Dr. Richardson to Paris in June last at the head of the Association of Sanitary Inspectors of Great Britain. With this intent the Société d'Hygiène offered Dr. Richardson, through Dr. Brémond as their mouthpiece, their bronze medal. Everybody—and their name is legion—acquainted with Dr. Richardson's lifelong efforts in the cause of public and personal health will rejoice at the great honour paid him by such a distinguished body as the Société d'Hygiène.

Paris, Oct. 26th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Cholera in Russian Poland.

THE Prussian Commissioner for the basin of the Vistula states that there were 54 cholera cases and 12 deaths in Warsaw between the 13th inst. exclusive and the 18th exclusive, 45 and 24 in the governmental district of Kielce between the 9th and the 14th, 74 and 37 in that of Radom between the 7th and the 14th, 235 and 128 in that of Lublin between the 12th and the 16th, and 132 and 46 in that of Siedlee between the 11th and the 16th.

Guttmann's Reichs-Medizinal Kalender.

The first part of Guttmann's *Reichs-Medizinal Kalender* (*Medical Calendar for the German Empire*) contains an essay by Professor von Pettenkofer on the Hygienic Lighting of Dwellings. The second part contains a list of all the German doctors, a list of the officers of the ambulance corps according to rank and seniority, and statistics concerning medical men, apothecaries' shops, hospitals &c.

Appointments &c.

Dr. August Wagenmann of Heidelberg has been appointed Professor of Ophthalmology at Jena. He is a frequent contributor to Graefe's *Archiv für Ophthalmologie*.—Dr. Krehl of Leipsic has been appointed Professor and Director of the Medical Policlinic at Jena. His special field is heart disease. He has published most of his writings in the *Archiv für Physiologie* and in the *Archiv für klinische Medizin*. He is only thirty-one.

Professor Bechmann of Giessen has been appointed Professor of Pharmacy and Director of the Pharmaceutical Institute at Erlangen.

The sentence of Dr. M. Wiederhold, head of a private hospital at Wilhelmshöe near Kassel, to three months' imprisonment, for whipping one of his lady patients, has been commuted by the Emperor into the much less disgraceful one of three months' confinement in a fortress. This act of grace is said to have been actuated by the circumstance that the convict belongs to the military profession as an assistant doctor of the first class.

Berlin, Oct. 25th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Anglo-American Medical Association.

THE first meeting of the Anglo-American Medical Association took place on Oct. 14th, and was very well attended by numerous English and American physicians, who are now in Vienna continuing medical study at the General Hospital in various special branches of medicine. The meetings will now be held more frequently than in former years, and it is intended to arrange lectures from time to time to keep the members informed of the progress of medicine in their native tongue.

A Poison prepared from Fresh Egg Albumen.

At the last meeting of the Vienna Society of Physicians Professor Max Gruber showed some experiments on animals (guinea-pigs and rabbits) with a substance obtained from fresh egg albumen of chicken. The egg albumen is shaken with pure water and then treated with absolute alcohol. The precipitate thus obtained, treated with water again for some time, yields a yellowish alkaline solution which proves to be highly poisonous, exhibiting a curare-like action if injected in animals. If small quantities of five cubic centimetres are injected into the peritoneal cavity of guinea-pigs, after a short period of excitation paralysis of the voluntary muscles, with fibrillary contractions of the muscles, is produced, the frequence of respiration becomes lowered, but after some hours the animal recovers again; but if fifteen cubic centimetres were injected complete paralysis of the voluntary muscles would set in within two minutes, and after six to nine minutes the animal died, as if under the action of curare. The poison seems to be an albuminous body, similar to some of the snake poisons; it loses its poisonous action by being exposed for some days to the influence of air and light. The poisonous solution does not coagulate if cooked in the fresh state, but it coagulates readily by heat if the solution has become some days old.

Inhibition of Growth in Sheep after Thyroidectomy.

Dr. von Eiselsberg, assistant of Professor Billroth, in continuing his researches on the influence of the extirpation of the thyroid gland on the growth of animals, has found considerable differences in the development of sheep after thyroidectomy. In two lambs soon after birth the thyroid gland had been extirpated, and now, after eight months, the animals showed the following differences from two other lambs of the same age: The bodily weight was only 10 and 14 kilogrammes in the operated animals, while it was 35 and 27 kilogrammes in those not operated upon. The hind part of the head and the abdomen of those operated on are considerably enlarged and gives to them a peculiar appearance, their tails are only rudimentarily developed, their testicles are atrophied, their fleece is bad, their intelligence is lower than in the normal animals and they are suffering from chronic bronchial catarrh with viscous secretion similar to that which is often observed to occur in human beings after thyroidectomy. Various therapeutical experiments will shortly be made on these animals which were demonstrated at the last meeting of the Vienna Medical Society.

Vienna, Oct. 27th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Medical Profession in Australia.

A VERY interesting State paper has recently been issued from the Government Statists' office, dealing with the professions, trades and occupations of the people of Victoria as set forth in the census returns of 1891. In the last decade the population of Victoria increased by a little over a quarter of a million, being now 1,140,000. It is instructive to note in what walks of life the increase has been most marked. To understand the subject aright it must be remembered that the last decade was remarkable for the large amount of money borrowed from British investors by the Government of the colony; for a consequent abnormal activity in industrial pursuits; and for an outburst of speculation in comparison with which the South Sea Bubble and the railway mania were mere emotions. Bearing these facts in mind it is not surprising that there has been a considerable increase in the number of persons described as of "independent means" and of "no occupation"—the class "who toil not, neither do they spin." The number of artisans and mechanics has more than doubled, while the agricultural and pastoral community has made little or no increase. The mining population has diminished by a third, while the devotees of literature and science have increased their numbers by a third. Clergymen, lawyers and doctors have more than doubled their numbers. Under the heading "Medical Profession" are included "physicians, surgeons and druggists." In 1881 there were 1595 such persons in the colony. In 1891 the number had increased to 3474. In 1881 the proportion to the population was 1 to 540; in 1891 it was 1 to 328. That there has been a large increase in druggists and quacks is undoubted, but there has also been an abnormal increase in the number of qualified medical practitioners, so that now the number of doctors in the colony is out of all proportion to the population. Victoria, and in fact all Australia, as a field for medical emigration is played out. The large cities are overrun with medical men out of employment, anxious to grasp at anything that offers. Whereas only a few years ago there were one or two applications for appointments to country hospitals, there are now dozens of applicants for the post of resident surgeon to even the most out-of-the-way country institutions. It is a matter for regret that the rising generation despise the trades and occupations of their fathers when these occupations entail earning their bread by the sweat of their brow, and they unfortunately all aspire to enter a profession where they can wear a black coat and put on the gentleman by Act of Parliament. This apotheosis of snobbery is a very sad phase of our civilisation.

The Treatment of Club-foot.

At a recent meeting of the Medical Society of Melbourne Mr. G. A. Syme, F.R.C.S. Eng., read a thoughtful paper on the Causation and Treatment of Club-foot. His researches had led him to believe, with Parker, Eschricht and others, that "club-foot is an arrest of development—the permanence of a certain stage in the evolution of the lower limbs," and he brought evidence to show that this arrest of development was due to compression of the fœtus in the womb owing to largeness of size, presence of twins or deficiency of liquor amnii. Setting out with these views, Mr. Syme advocated the treatment of the whole limb and not merely the foot. Division of tendons and ligaments might reduce the deformity, but the improved position was only transitory. He had adopted and improved on Mr. T. N. FitzGerald's treatment as described in the records of the last Intercolonial Congress. His method is to divide freely the ligaments of the astragalo-scaphoid joint and to forcibly twist the foot into position. Then the bones and cartilages are divided and the divided structures are crushed and moulded into position, so that when union takes place the position of the foot is permanent and the foot is strong and solid. This was the great point in the operation, and so far as the foot is concerned the results are splendid. Mr. Syme did not think that one need be very particular as to the exact bones divided or the direction of the chisel, provided they are separated on the inside and well broken up, compressed and approximated on the outer side. The last proceeding was of great importance, the union and ossification of the crushed fragments firmly holding the foot in its improved position. Mr. Syme then went on to say: "Admirable as this operation is, however, I venture to think it often requires to be combined with further procedures. By it the shape of the foot and its position in relation to the leg can be completely rectified and the patient can stand to be photographed, so that the result excites admiration, but when the child walks it will often be found that he or she still does so with a peculiar gait, turning in the toes. To obviate this I think it is advisable, as before observed, to divide the tibia and rotate the whole foot out, and very possibly it will be necessary to divide the femur as well. Ogston divided the tibia and fibula, without interfering with the foot at all, and says 'the results were as satisfactory as those he obtained by Lund's operation,' but 'some bayonet-shaped deformity of the leg and ankle' resulted, 'produced by the great rotation outwards of the foot.' I think that by combining the procedures less interference is required in each. The inversion and part of the adduction can be rectified by Mr. FitzGerald's method, the further adduction and inward rotation by division of the tibia, which yet need not be rotated so far as to produce any

'bayonet-shaped' deformity. If this be not sufficient, the femur can be divided, and the limb slightly rotated out. If the whole rotation out be obtained by division of the femur only, an awkward deformity may be produced at the knee, the patella looking outward."—Mr. T. N. FitzGerald took part in the discussion which followed, and warmly congratulated Mr. Syme on the improvement he had made in the operation and on the admirable results he had produced.

Obituary.

CONWAY EVANS, M.D. LOND.

OCTOBER has been a black month, and many *dies atri* already blacken the calendar. Dr. Conway Evans had of late complained much of dyspnœa and cardiac weakness, but did not give up work until some two months ago, when he consulted Mr. Gowan of Stanmore and Dr. Wilks, who found he was suffering from Bright's disease, heart trouble and dropsy. He obstinately refused all medicines, and died, at the age of sixty-two, on Oct. 18th, at his residence, Hyde Cottage, The Hyde, Hendon. He was buried last Saturday at his birthplace, Pontrhydyrun, in Monmouthshire. He was born in 1830; his father was the Rev. D. D. Evans, a Nonconformist minister, and his mother's maiden name being Conway, he was given the name of David Conway Evans. As a boy he was sent to Mill Hill School, where he rapidly rose to the highest place. He was afterwards apprenticed (as was the custom in those days) to Mr. Lawrence, surgeon, of Pontypool. He entered as a medical student at King's College in October, 1849, where he was remarkable for his industry and brilliant talents and where he obtained several honours and distinctions. He was appointed house physician for the winter session of 1854–5, and the manner in which he performed the duties of his office may be estimated by a reference to the preface to the Clinical Lectures of the late Dr. Todd, in which the fullest and warmest acknowledgment is made of Dr. Conway Evans' valuable aid in making clinical reports and important analyses in Dr. Todd's cases in King's College Hospital. He graduated at the University of London, took his M.B. and the scholarship and gold medal in medicine in 1855, and his M.D. in 1857, in which year he was elected physician to the public dispensary; he was also for many years assistant physician to King's College Hospital, where he was a very successful teacher and a great favourite with the students. He was pathological registrar and curator of the Pathological Museum from 1865 to 1868, and showed many interesting exhibits to the Pathological Society. Dr. Conway Evans also filled the position of medical adviser to the firm of W. H. Smith and Son in a manner that obtained for him the gratitude and respect of all with whom he thus became associated. He was appointed medical officer to the Strand District Board of Works on the formation of that board in 1855. Here he found work exactly suited to his taste, and he soon became a typical medical officer of health. His annual reports are models of what such reports should be, and are specially referred to and commended by Mr. Firth in his great work on the municipal government of London. The district has more people in proportion to houses than any other and the population is less migratory; yet Dr. Evans made it remarkable for the excellence of its sanitary arrangements, its freedom from epidemic and contagious disease and its comparatively low death-rate. During the last cholera epidemic of 1866, no district was better organised, and the deaths from cholera were 23 only, as against 111 in 1854 and 156 in 1849. To show their high appreciation of his work in general, the board doubled his salary at once without a dissentient voice, and for his work during the cholera epidemic of 1866, they voted a special gratuity of £150. As physician to the Lincoln's-inn public dispensary Dr. Evans gave to every poor patient the same time and careful study that he gave to a rich one, and, although he professed an utter scepticism as to drugs, his practice indicated a strong belief in them. Such inconsistency of conduct with creed is, fortunately for us all, not uncommon in this as in other matters; but, unfortunately for him and for us, Conway Evans *was* consistent in his own case and in his last illness, for he persistently refused to take medicines that would certainly have given him relief and possibly prolonged his days. His quickness and accuracy in diagnosis were marvellous; but no one was more painstaking in the investigation of a case in which there might be room for doubt. One glance of his would often reveal to him the patient's disease. In this he resembled the late Dr. Addison of Guy's, whose eye, like a speculum, brought hidden things to light. Conway Evans was a man of various tastes, accomplishments, and pursuits; he loved country life and was always happy when farming, gardening or building; he was also fond of collecting valuable pictures and books. When the old Hyde cottage was burnt down in November, 1886, most if not all of these were destroyed, and he thought his last illness originated in the shock he then received and the long night of exposure to the cold, damp air. Conway Evans's mind was original, independent and thoroughly honest. His work was thorough and he held strong views and opinions, from which he never swerved; he had little of the *suaviter* and less of the conventional; but he did much quiet, useful work and helped many who were in trouble and did his duty without fear or favour; "because right is right, he followed right, in scorn of consequence." In short, he was a very uncommon man, and the profession and the poor will be all the poorer without him. He will be sadly missed by his intimate friends and pupils, all of whom will *feel*—if they do not say of him—what Wordsworth said of one he dearly loved—"but Conway's in his grave, and oh, the difference to me!" A sterling honest man and a most able and thoughtful physician bound by no man's special views has passed from our midst.

F. J. BURGE, M.R.C.S. ENG., L.S.A.

WE regret to have to announce the death of Mr. F. J. Burge at Hastings, on the 13th ult. The circumstances connected with the career and work of the deceased gentleman merit, however, more than a brief reference to the event. As one of the original medical officers of health for an important suburb of London, his labours for the promotion of the public well-being in sanitary matters ought not to be suffered to be forgotten. Mr. Burge studied at St. George's Hospital and obtained his surgical diploma in 1843, after having successfully passed the examination at the Hall at Blackfriars. He commenced practice in the first instance at Blagden, Somersetshire, but subsequently removed to Shepherd's Bush, where he soon secured a numerous *clientèle*. The work for which he will be most remembered, however, was that connected with the duties of his appointment as medical officer of health for Fulham and Hammersmith, which post he held for twenty years, and from which he retired on a pension. In this sphere of activity he distinguished himself by his zeal and activity, at a time when sanitation had not attained the degree of public estimation it has now secured. In his twentieth annual report to the Board of Works for the Fulham district, dated May 24th, 1876, Mr. Burge gives a summary of the work accomplished under his direction and advice during the period of his tenure of office. Moreover, for the discharge of the duties belonging to it he did not fail to qualify himself by the study of technical matters pertaining to his charge. He took great interest in the analysis of water and food under Mr. Crookes' tuition, and worked many an hour in his laboratory or with his microscope after a hard day's general practice. Whilst his daily attention was given to the routine work of his district, he did not overlook matters which at that time were regarded as outside his special province. Thus he gave attention to the condition of surface wells, to the necessity for the construction of good sewers in connexion with the main drainage scheme, the importance of isolation in infectious cases, the ventilation of bakehouses, and many other subjects of public sanitary interest. He was ever a willing helper in the promotion of any agency which he regarded as likely to further the physical and moral interests of the people. On retiring from practice in 1877 Mr. Burge went to reside at Wraysbury, but afterwards removed to Hastings, though he still maintained an active interest in local affairs. He was twice married, the issue of the first wife being three sons and one daughter. One son, who is at present in practice as a physician at Shanghai, and the daughter alone survive.

ROBERT PHILIPSON EDGER, L.S.A.

AT the great age of ninety-four the subject of this notice passed away on the 21st ult., at Hetton-le-Hole, where he had lived and practised for sixty-six years. Mr. Edger, who obtained his qualifying certificate from the Apothecaries' Hall in 1823, belonged to a family of surgeons, his father and three brothers having followed the profession of medicine in the north of England. In 1826 he obtained the appointment of surgeon to the Hetton Coal Company and for more than fifty years discharged the duties of that office with general acceptance. He was ever foremost in the promotion of movements of public utility in the district. Amongst his endeavours to advance the physical well-being of his neighbours may be mentioned the large share he took in establishing a company for the supply of pure water. He also took great interest in building societies, feeling such associations to be active agencies for the fostering of provident habits in working people and for promoting the encouragement of the provision of healthy dwellings. As an able practitioner, as a courteous and upright man and a worthy citizen, the memory of Mr. Edger will not soon be forgotten.

ROYAL COLLEGE OF PHYSICIANS.

THE quarterly Comitia of the Fellows of the College of Physicians was held on the 27th inst., the President, Sir A. Clark, Bart., in the chair. Eight gentlemen were admitted Members of the College, and licences were granted to those who had passed the recent examination.

The College seal was affixed to a copy of the new edition of the by-laws.

The executors of the late Dr. Ditchfield having presented a further collection of engravings, the property of that gentleman, the thanks of the College were accorded for the gift on the motion of the Senior Censor, seconded by the second Censor.

The annual accounts of the College and the quarterly report of the Finance Committee were received and adopted.

Two Reports from the Committee of Management were read and adopted. They embraced the recognition of Rainhill Asylum as a place of study for the Final Examination, the recognition of the courses of instruction in Public Health at St. Bartholomew's Hospital and at the Bristol Medical College as fulfilling the requirements for the Diploma of Public Health, and the recognition of certain schools of science as places of instruction in the subjects of the First Examination.

A report from the Laboratories Committee was also adopted.

Dr. W. M. Ord and Dr. Pye-Smith were re-elected members of the Management and Laboratories Committees respectively.

On the motion of Dr. Allchin it was resolved to add to the by-law clxxvi. a clause embodying the resolution passed at the last meeting of the College with respect to the sale or purchase of practices by Fellows or Members.

The quarterly report of the Examiners for the Licence was adopted on the motion of Dr. F. T. Roberts, seconded by Dr. N. Moore.

Medical News.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS, IRELAND: CONJOINT SCHEME.—The following have passed the Third Professional Examination:—

J. W. Burne, E. Cairns, J. Campbell, P. J. D. Coen, T. C. Cummins, J. E. Dobbs, Thos. Fagan, W. B. Felton, R. C. Fisher, J. Fleming, G. L. Freeman, C. Kapp, J. P. Martin, D. Molyneux, J. A. Morgan, T. M. Morton, F. Nolans, J. J. O'Donnell, C. Skelly, E. W. Smith.

Second Professional Examination.—**In addition to the list already published, the following have been allowed this examination:—G. E. Caithness, E. A. Chartres, J. F. Smyth.**

SOCIETY OF APOTHECARIES OF LONDON.—The following candidates have passed an examination in the subjects indicated:—

Surgery.—**J. B. Bate, Bristol; J. C. Bawden, Liverpool; C. H. Broadhurst and R. D. Cox, St. Mary's Hospital; A. D. Davies, London Hospital; H. T. Dufton Cambridge University and St. Bartholomew's Hospital; J. L. Iredale, Yorkshire College, Leeds; H. E. Mortis, Charing-cross Hospital; S. Wilkinson, Liverpool.**

Medicine, Forensic Medicine and Midwifery.—**C. D. Cardinall, St. Bartholomew's Hospital; N. Elvington, St. George's Hospital; W. S. Mercer, Charing-cross Hospital; H. W. Oborn, St. Thomas's Hospital.**

Medicine and Forensic Medicine.—**J. C. Bawden, Liverpool.**

Medicine and Midwifery.—**H. E. Cooper and C. W. H. Newington; St. Bartholomew's Hospital; J. F. Stockwell, St. Mary's Hospital E. Williams, London Hospital.**

Forensic Medicine.—**W. R. Clarke, Belfast.**

Midwifery.—**W. A. Jones, Bristol; F. Melandri, University of Bologna B. Saul, Charing-cross Hospital.**

To Messrs. Bate, Broadhurst, Clarke, Iredale, Melandri, Mercer, Oborn and Wilkinson was granted the diploma of the Society entitling them to practise Medicine, Surgery and Midwifery.

ST. JOHN AMBULANCE ASSOCIATION.—On the 22nd inst. the medallions and certificates won by the successful students attached to the No. 2 district of the St. John Ambulance Association were presented by the Lady Mayoress at the Mansion House. After the presentation the Lord Mayor made a few remarks on the value of the first aid movement, and Sir V. Kennett-Barrington congratulated the members of the organisation on the success and utility of its labours.

FIRE AT AN ANATOMICAL MUSEUM.—The anatomical collections of the Karolin Institute in Stockholm have been seriously damaged by fire. The valuable series of Swedish skulls and skeletons is completely destroyed. By the strenuous exertions of the firemen some of the other collections were saved, including the embryological series. There was, however, very serious damage done to the valuable collection of Egyptian and Lapp skulls made by Professor Retzius.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—The annual meeting was held at the Royal Kent Dispensary, Greenwich, on the 7th inst., H. W. Roberts, Esq., President, being in the chair. The following gentlemen were elected as officers of the Society for the session 1892-93:—President: George Newton Pitt, M.A., M.D. Cantab. Vice-Presidents: John MacGavin, L.R.C.P. Edin., and Peter Cooper, M.R.C.S. Council: A. Stewart Brown, F.R.C.S. Edin.; Wm. Arbuthnot Lane, M.B., B.S. Lond.; John Gordon Mainwaring, M.R.C.S.; Williams Nicholson, M.D. Edin.; Charles Jas. Parke, M.R.C.S.; F. S. Smyth, L.R.C.P. Edin.; Francis T. Tayler, M.B. Lond. Treasurer: Prior Purvis, M.D. Lond. Secretary: Ernest Clarke, M.D., B.S. Lond. Librarian: John MacGavin, L.R.C.P. Edin.

SCHOOLS OF SURGERY, ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following is the prize list for the session 1891-92:—Junior Descriptive Anatomy: G. E. J. A. Robinson, First Prize (£3) and Medal; C. B. Martin, Second Prize (£1) and Certificate. Senior Descriptive Anatomy: E. J. Moore, First Prize (£3) and Medal; E. A. Meeke, Second Prize (£1) and Certificate. Practical Anatomy, First Year: J. R. Sinton, First Prize (£3) and Medal; F. J. Purcell, Second Prize (£1) and Certificate. Practical Anatomy, Second Year: A. Leventon, First Prize (£3) and Medal; E. J. Moore, Second Prize (£1) and Certificate. Practical Anatomy, Third Year: H. R. Sweeney, First Prize (£3) and Medal; L. F. Corbet, Second Prize (£1) and Certificate. Practice of Medicine: W. Taylor, First Prize (£3) and Medal; J. J. O'Donnell, Second Prize (£1) and Certificate. Theoretical Surgery: W. Taylor, First Prize (£3) and Medal; H. R. Sweeny, Second Prize (£1) and Certificate; A. M'Cann and J. J. O'Donnell, Certificates. Midwifery: W. J. Trewhella, First Prize (£3) and Medal; M. D'Exeter Jordan, Second Prize (£1) and Certificate. Physiology: W. L. Martin, First Prize (£3) and Medal; E. C. Hayes and A. M'Cann, Second Prize (10s. each) and Certificates Chemistry: M. J. Carroll and E. W. Siberry (equal), First Prize. (£2 each) and Medals. Mayne Scholarship, £15: G. Hamilton. Operative Surgery: G. Hamilton, First Prize, Gold Medal; O. W. Elsner and J. C. Prittie-Perry (equal) Second Prize, Silver Medals; H. G. LeFanu and F. Warren (equal) Certificates. Practical Chemistry: H. Eardley, First Prize (£3) and Medal; H. F. Conyngham, Second Prize (£1) and Certificate. Practical Histology: E. A. Meeke, First Prize (£3) and Medal; E. C. Hodgson, Second Prize (£1) and Certificate. Materia Medica: E. J. Moore, First Prize (£3) and Medal; E. A. Meeke, Second Prize (£1) and Certificate. Pharmacy: R. M. Hamilton, First Prize (£3) and Medal; H. B. S. Montgomery, Second Prize (£1) and Certificate. Medical Jurisprudence: J. J. O'Donnell, First Prize (£3) and Medal; L. F. Corbet, Second Prize (£1) and Certificate.

TASMANIA.—Dr. A. J. Neale, of New Norfolk, has been appointed a Justice of the Peace for the colony.

WESTERN AUSTRALIA.—Three new hospitals are being erected in the colony—namely, at Katanning, Newcastle and York.

DEATH OF A CENTENARIAN.—Hannah Cooke, who on Sept. 2nd last was said to have reached the age of 100 years, died on the 20th inst. at Kidderminster, of which town she was a native. She retained her physical powers and mental faculties until the day of her death.

THE MUNTZ TRUST. — The following are the grants made for the year 1892:—Queen's Hospital, £150; Children's Hospital, £150; Eye Hospital, £50; Homœopathic Hospital, £50; Ear and Throat Hospital, £50; Lying-in Charity, £50; Women's Hospital, £50; District Nursing ociety, £50; Orthopædic Hospital, £25.

THE MORLEY CONVALESCENT HOME. — By the opening of the new wing of this institution it is estimated that from 1500 to 1600 patients can be annually accommodated. The foundation stone was laid about a year ago by the Lord Mayor. The cost of this extra accommodation at St. Margaret's Bay has amounted to £5000.

THE SURGICAL AID SOCIETY, SUNDERLAND.—The report of this Society, read at the first annual meeting which was held last week, stated that the local subscriptions for the year amounted to £54 17*s.* 3*d.* It was also announced that Mr. D. H. Haggie, J.P., had promised a life subscription of five guineas.

PRESENTATIONS.—A handsome travelling clock subscribed for by the poor of the borough of Chard has been presented to Mr. S. A. Clarke, with an address, for the kindly and valuable services he has rendered them in relieving their sufferings, and among whom, in consequence, he is a great favourite.—Dr. G. E. Morrison, resident surgeon of the Ballarat Hospital, Victoria, Australia, and Dr. E. G. Ochiltree of Ballarat have each been presented with an illuminated address by the Ballarat Branch of the Railway Employés' Association, in appreciation of professional services to several members of the Association.

THE LIABILITY OF OWNERS OF INSANITARY HOUSES.—At the Clerkenwell County Court on the 18th inst., before Judge Eddis and a jury, Emma Corfield, of 90, Atlantic-road, Brixton, was sued for damages for making certain misrepresentations respecting the sanitary condition of 91, Corbyn-street. The plaintiff had been nonsuited by the judge and had taken the case to the High Court, from which tribunal it was sent back to the county court. Evidence having been given that the house in question was in an insanitary state, the jury found for the plaintiff and costs. The amount claimed—£13 10*s.*—was for expenses of removal and doctor's bills.

CHRIST'S HOSPITAL.—It does not appear to be generally known that the Governors of Christ's Hospital are prepared to receive applications for the admission to Christ's Hospital of "children being sons and daughters respectively of persons distinguished in Literature, Science or Art, or in the service of the Crown, or for services rendered to the public or to Christ's Hospital." All such children must be between ten and eleven years of age, must pass the prescribed examinations, and must be subject to the provisions of the scheme for the hospital. A statement of the distinguished services of the parents must in every case accompany the application.

CHESTERFIELD HOSPITAL.—On the 20th inst., at the Stephenson Memorial Hall, Chesterfield, a meeting, presided over by his Grace the Duke of Devonshire, was held for the purpose of raising the necessary funds for adding a new wing to the Chesterfield and North Derbyshire Hospital and Dispensary. So great have the demands upon this institution been of late that additional accommodation has become absolutely necessary. Upwards of £1700 was raised at the meeting. Among the contributors were the following:—Duke of Devonshire, £500; the Duke of Rutland, £50; Mrs. Hunloke, £50; Mr. W. Arkwright, £50; Mr. C. Markham, £100; Colonel Seely, M.P., £100; Mr. W. G. Turbutt, £50; the Stavely Coal and Iron Company, £200; the Sheepbridge Coal and Iron Company, £100; and the Clay Cross Coal and Iron Company, £100.

WESTMINSTER HOSPITAL MEDICAL SCHOOL.—An Entrance Scholarship value £60 has been awarded to Mr. H. Hilton Cheesman.

POST GRADUATE COURSE.—Dr. Braxton Hicks having been prevented by his duties as examiner from giving his first lecture on October 25th will do so on November 1st and 22nd.

AT the Medical Society of London on Monday evening next Dr. B. W. Richardson will read a paper on Intra-organic and Thoracic Auscultation—a preliminary chapter on a research in which he has recently been engaged.

THE town of Sudbury, Suffolk, has been presented by Sir George Humphry with a portrait of himself, and also of Mr. G. W. Andrewes, who was mayor of the town in the year of the Queen's accession, and likewise in the year of her Jubilee.

THE annual general meeting of the St. George's Hospital Graphic Society will be held on Tuesday next, Nov. 1st, at 2.30 P.M. By permission of the board of governors the annual exhibition will be in the board-room of the hospital, and will be opened immediately after the meeting; it will remain open until the end of the week.

FOOTBALL CASUALTIES.—Of the following casualties, four occurred on Saturday. During the progress of a Berks and Bucks Junior Cup match, at Maidenhead, between the Maidenhead Norfolkians and Maidenhead Reserves, a player collided with an opponent, sustaining a compound fracture of one of his arms. In a College match, at Oxford, a player fractured his leg. At the Wilts County Asylum, in a match between the Southbroom and the Asylum Teams, a player sustained a compound fracture of the right arm. Prior to the commencement of a match, whilst at practice, between Leicester A. and Moseley A. at Leicester a member of the local team fractured his clavicle. A reserve forward of the Darwen Club died on Sunday from injuries received in the abdomen whilst playing against Newton Heath in a combination match in the previous week.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

A'BECKETT, W. G., M.R.C.S., has been appointed Honorary Medical Officer of the Melbourne Hospital for Sick Children, Victoria, Australia.

ALDOUS, G. F., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer to the Plymouth Public Dispensary.

ASHE, E. OLIVER, M.D. Lond., F.R.C.S. Eng., has been appointed Senior House Surgeon to the Kimberley Hospital, South Africa.

BROWN, JOHN, M.D., Dip. San. Science, Vict. Univ., has been re-appointed Medical Officer of Health for the Borough of Bacup.

BUCHAN, W. A., M.B., C.M. Edin., has been reappointed Medical Officer to the Plymouth Public Dispensary.

CARRUTHERS, ALAN E., M.A., M.R.C.S., L.R.C.P., has been appointed Assistant House Surgeon to the Sussex County Hospital.

DAUNT, E., L.R.C.P., M.R.C.S., L.S.A. Lond., has been appointed Medical Officer for the West Brigg Sanitary District of the Glass-Brigg Union, and also Public Vaccinator of the Brigg District.

DAVIES, RICHARD, M.B., C.M. Edin., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the Royal United Hospital, Bath.

ELLISON, J., M.D., M.Ch. Irel., has been appointed Health Officer for the Shire of Numurkah, Victoria, Australia.

FORDYCE, B. E., M.B., C.M. Edin., has been appointed Medical Officer for the Sixth Sanitary District, also to the Workhouse, and Vaccination Officer to the Chesterton Union.

FOX, E. L., M.D., B.Ch. Camb., M.R.C.P. Lond., M.R.C.S., has been appointed Second Physician to the Plymouth Public Dispensary.

GEMMELL, SAMSON, M.D., C.M., F.F.P.S. Glasg., has been appointed a Visiting Physician to the Western Infirmary, Glasgow.

GIBBS, S. A., M.B., C.M. Edin., has been appointed Honorary Surgeon to the H Battery, New Zealand, Regt. Artillery Volunteers.

GOODMAN, R. N., B.Sc. Lond., M.B., D.P.H. Camb., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Parish of Ham, Kingston-on-Thames Union.

GOW, WILLIAM J., M.D. Lond., M.R.C.P., has been appointed Physician Accoucheur to Out-patients at St. Mary's Hospital, London.

HOOPER, ALFRED, M.R.C.S., has been reappointed Medical Officer of Health for the Second Sanitary District of the Burton-on-Trent Union.

JAMIE, R. W., M.B., C.M. Edin., D.P.H. Camb., has been appointed Medical Officer of Health for the Coalville Urban Sanitary District of the Ashby-de-la Zouch Union.

LEMPRIERE, C. L., M.B., C.M. Edin., has been appointed Honorary Medical Officer of the Melbourne Hospital for Sick Children, Victoria, Australia.

LYNDON, ARNOLD, M.D. Lond., M.R.C.S., has been appointed Surgeon to the Wellington and District Cottage Hospital, Somerset.

MALLAM, W. A., M.R.C.S., L.R.C.P., has been appointed House Physician to the Sussex County Hospital.

MAYNARD, EDWARD F., M.D., has been appointed Senior House Surgeon to the Sussex County Hospital.

NORTON, E. E., L.R.C.P. Lond., M.R.C.S., has been appointed Resident Medical Officer of the City-road Workhouse, Holborn Union.

READMAN, THOS., L.R.C.P., L.R.C.S Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Aldburgh Sanitary District of the Skirlaugh Union.

REED, H. A., L.R.C.P. Lond., M.R.C.S., has been appointed Public Vaccinator for North Carlton, Victoria, Australia, vice Doolan, resigned.

REES, A. H., L.R.C.P. Edin., M.R.C.S., has been reappointed Assistant Physician to the Plymouth Public Dispensary.

ROUSE, EUSEBIUS R., M.R.C.S., L.R.C.P., L.S.A. Lond., has been appointed Third Assistant Medical Officer to the Colney Hatch Asylum, vice C. J. Ewart, promoted to the Senior Female Department.

RYAN, C. S., M.B., C.M. Edin., has been appointed Honorary Medical Officer of the Melbourne Hospital for Sick Children, Victoria, Australia.

SHARMAN, EDWD. W., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed an additional Vaccinator for the Districts of Auckland and Onehunga, New Zealand.

SHAW, HUGH GROSVENOR, M.R.C.S., L.R.C.P. & M., has been reappointed Assistant Medical Officer to the Female Department of the London County Asylum, Colney Hatch, vice C. F. Beadles, appointed to Male Department.

SNOWBALL, WM., L.R.C.S. Edin., has been appointed Honorary Medical Officer of the Melbourne Hospital for Sick Children, Victoria, Australia.

SORLEY, John, M.B., C.M. Edin., has been appointed Honorary Surgeon to the Manchester Rifle Volunteers, New Zealand.

STEVENS, WM. E., L.R.C.P. Lond., M.R.C.S., has been appointed Public Vaccinator for the District of Kurow (Otago), New Zealand.

STEVENSON, R. D., M.B., C.M. Glasg., has been appointed Health Officer for the Shire of Glenlyon, Victoria, Australia, vice Swindells, resigned.

STOCKWELL, F., M.D Lond., M.R.C.S., has been appointed Medical Officer for the Seventh Sanitary District of the Shepton Mallet Union.

WILSON, W. C., M.B., C.M. Edin., has been reappointed Assistant Physician to the Plymouth Public Dispensary.

WINTER, LAURENCE A., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant House Surgeon to the Kent and Canterbury Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

BOROUGH OF BOOTLE HOSPITAL FOR INFECTIOUS DISEASES.—Resident Medical Officer. Salary £100 per annum, with board, washing, and apartments at the hospital.

BRISTOL EYE HOSPITAL.—House Surgeon. Salary £120, without board or residence.

BRITISH MUSEUM (Natural History).—Articulator and Preparer of Skeletons. Salary £2 per week, rising after three years to £2 5s. (Applications to the Director, Natural History Museum, Cromwell-road, London, S.W.)

CANON SCOTT, Leeds.—Duly qualified Medical Man, for Mission work in the interior of Shantung, China. No stipend. Passage, keep, and all requisites found.

CHURCH OF SCOTLAND JEWISH MISSION.—Medical Missionary for the Mission and Hospital at Smyrna. Salary £300, with dwelling-house. (Applications to the Rev. Dr. Alison, 1, South Lauder-road, or Mr. J. A. Trail, W.S., 17, Duke-street, Edinburgh.)

DENTAL HOSPITAL OF LONDON AND LONDON SCHOOL OF DENTAL SURGERY, Leicester-square.—Lecturer on Dental Metallurgy.

DENTAL HOSPITAL OF LONDON AND LONDON SCHOOL OF DENTAL SURGERY, Leicester-square.—Demonstrator. Honorarium £50 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Glamis-road, Shadwell, E.—House Physician. Board and lodging provided.

GLAMORGAN COUNTY COUNCIL.—County Medical Officer. Salary £750 per annum, of which £150 is intended to cover all travelling and office and laboratory expenses.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—Ophthalmic Surgeon.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—House Surgeon for six months. Salary £25, board and residence in the hospital.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—Assistant Physician.

LIVERPOOL NORTHERN HOSPITAL.—Resident House Surgeon's Assistant for six months. No salary, but certificate of attendance, together with board and lodging, will be given.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Assistant Surgeon.

MOULSFORD LUNATIC ASYLUM, near Wallingford, Berks.—First Assistant Medical Officer. Salary to commence at £140 per annum, rising by annual sums of £10 to a maximum of £160, with residence and board in the Asylum.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Assistant Surgeon.

REV. C. E. BROOKE, 127, Vassall-road, S.W.—Fully qualified Doctor for Corea, in connexion with Bishop Corfe's Mission. Guaranteed salary for a three years' engagement £300.

ROYAL INFIRMARY, Edinburgh.—Superintendent. Salary £500 per annum, with free house, coal and gas.

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION, Ventnor, Isle of Wight.—Assistant Resident Medical Officer. Salary £70 per annum, with board and lodging in the hospital. (Applications to the Board of Management, 34, Craven-street, Charing-cross, London.)

SMEDLEY'S HYDROPATHIC ESTABLISHMENT, Matlock, Derbyshire.—Resident House Physician, for six months. Board and residence free. An honorarium of 20 guineas.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Honorary Surgeon.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Second Dental Surgeon.

Births, Marriages and Deaths.

BIRTHS.

APPLETON.—On Oct. 23rd, at Ferndale, Britannia-road, Fulham, the wife of Thos. Alfred Appleton, M.R.C.S., L.S.A., of a son.

BALY.—On Oct. 14th, at Tunstall, Staffordshire, the wife of Price Baly, Surgeon, of a daughter.

BICKERTON.—On Oct. 26th, at 88, Rodney-street, Liverpool, the wife of T. H. Bickerton, Ophthalmic Surgeon, of a son.

CARR.—On Oct. 24th, at Rue Faidherbe, Boulogne-sur-Mer, the wife of Alfred Carr, M.R.C.S., of a son.

DAVIES.—On Oct. 26th, at Bow-road, E., the wife of Hughes Reid Davies, M.R.C.S., L.R.C.P. Lond., of a son.

DAVIS.—On Oct. 23rd, at Sunnydene, Sidcup, Kent, the wife of Geo. Wm. Davis, M.D., M.R.C.S., of a daughter.

EVANS.—On Oct. 20th, at Castle Hill House, Shaftesbury, the wife of C. Silvester Evans, M.A., M.B., of a daughter.

FACEY.—On Oct. 21st, at West-square, Malden, Essex, the wife of W. E. Facey, M.B., of a daughter.

FITZ-GERALD.—On Oct. 21st, at Southsea, the wife of Staff-Surgeon M. Fitz-Gerald, R.M.S. *Shannon*, of a daughter.

LEWIS.—On Oct. 22nd, at Bouverie-place, Folkestone, the wife of Dr. Percy Lewis, of a daughter.

LOWNDS.—On Oct. 25th, at Prospect House, Kirkburton, the wife of Charles J. Lownds, B.A. Cantab., L.R.C.P. & S. Ed., D.P.H. Ed., of a son.

PRYN.—On Sept. 28th, at Garrison, I. of Ascension, the wife of Surgeon W. W. Prvn, R.N., of a son.

SMITH.—On Oct. 22nd, at Albyn-place, Aberdeen, the wife of Patrick Blaikie Smith, M.D., of a daughter.

STREET.—On Sept. 30th, at Neemuch, Bombay, the wife of Surgeon Ashton Street, I.M.S., F.R.C.S., of a son.

TAYLOR.—On Oct. 26th, at Wimpole-street, Cavendish-square, W., the wife of Frederick Taylor, M.D., F.R.C.P., of a son.

MARRIAGES.

ANDREWS—THOMSON.—On Oct. 6th, at St. Luke's Cathedral, Halifax, Nova Scotia, Alexander Gordon Andrews, Surgeon, R.N., youngest son of S. W. Andrews, Solicitor, Bourne, Lincolnshire, to Christine, Emily, younger daughter of James Thomson, Barrister, of the former place.

HEATH—WILSON.—On Oct. 19th, at St. James's Church, Kidbrook, Charles Heath, F.R.C.S., of Eastcombe-villas, Blackheath, to Agnes Fridzwede, daughter of Colonel Wilson, Royal Engineers (Ret.), of Shooter's hill-road, Kidbrook.

MACKESON—GLOVER.—On Oct. 12th, at St. Mary's, West Kensington, Guy Mackeson, L.R.C.P. Lond., M.R.C.S., eldest son of the Rev. Charles Mackeson, of Mansfield-road, to Marion, youngest daughter of Wm. B. Glover, of Hendon.

MILNE—HAST.—On Oct. 20th, at St. Mary's, Wimbledon, Jas. Kershaw Milne, L.R.C.P. Lond., M.R.C.S., of Newlands, Merton, to Ada Blanche, second daughter of the late R. Grimes Hast, Wimbledon.

SIMPSON—SOUTAR.—On Oct. 19th, at the Waterloo Hotel, Edinburgh, James Bertie Simpson, M.A., M.D., Golspie, to Alice Peacock, youngest daughter of the late R. K. Soutar, M.D., Golspie.

THOMSON—THORPE.—On Oct. 20th, at Holy Trinity Church, Lenton, Nottingham, by the Rev. Canon Ebsworth, Vicar of East Retford, assisted by the Rev. Percy E. Smith, M.A., Vicar of Lenton, Dr. Thomson, of East Retford, to Ada, Eldest daughter of William Blankley Thorpe, Esq., of Lenton House, Lenton.

DEATHS.

ARNOTT.—On Sept. 28th, Sandford Arnott, of St. Vincent, W.I., M.D. Edin., aged 74.

CRAN.—On Oct. 23rd, at Wemyss Bay Hotel, after a few hours' illness, Robert Cran, M.D., Ballater, Aberdeenshire.

OSWALD.—On Oct. 15th, at Edinburgh, Henry R. Oswald, M.D., Surgeon-General, Indian Medical Service (retired), aged 65 years.

CROSSE.—On Oct. 22nd, at St. Giles'-street, Norwich, Thomas William Crosse, F.R.C.S., in his 67th year.

GIBSON.—On Oct. 21st, suddenly, John Rowland Gibson, F.R.C.S., aged 78.

PODE.—On Oct. 10th, lost in P. and O. s.s. *Bokhara*, off the Pescadores Islands, while on duty as Medical Officer, Ernest Duke Yonge Pode, B.A. Oxon., M.R.C.S., L.R.C.P., aged 30.

ROBERTSON.—On Oct. 23rd, at Port Said, Egypt, William Smith Robertson, M.D., in his 57th year.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages and Deaths.

Medical Diary for the ensuing Week.

Monday, October 31.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturday, at the same hour.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M., and on Tuesday, Wednesday, Friday, and Saturday at the same hour.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.
LONDON POST-GRADUATE COURSE.—Royal London Ophthalmic Hospital: 1 P.M., Mr. W. Lang: Conjunctival Affections.—101, Gt. Russell-st.: 8 P.M., Dr. Galloway: Liver and Spleen.—Parkes Museum (Margaret-st., W.): 4 P.M., Dr. Louis C. Parkes: Disposal of Refuse and Sewage.
THROAT HOSPITAL (Golden-sq.).—5 P.M. Dr. Greville MacDonald: Laryngitis, Acute and Chronic.
MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr. B. W. Richardson: On Intra-organic and Thoracic Auscultation—a New Departure in Physical Diagnosis.—Mr. Alban Doran: On the Surgical Treatment of Cysts of the Vulvo-vaginal Glands.

Tuesday, November 1.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day, 2 P.M.
LONDON POST-GRADUATE COURSE.—Hospital for Skin Diseases, Blackfriars: 4 P.M., Mr. Hutchinson: The Nature of Yaws.—Bethlem Hospital: 2 P.M., Dr. Percy Smith: Stupor and Dementia.—101, Great Russell-st., W.C.: 8 P.M., Dr. Braxton Hicks: Pelvimetry.
PATHOLOGICAL SOCIETY OF LONDON.—Mr. Raymond Johnson: Traumatic Dermoid Cyst of Hand.—Mr. Chas. Morton: (1) Adenoma of the Soft Palate; (2) Tumour resembling in structure an ordinary Parotid Tumour, without gland tissue, growing in the Cheek in front of the Masseter.—Mr. H. Betham Robinson: Psorospermial Cysts from a Rabbit.—Dr. F. C. Turner: Acute Emphysema of Lung—(*a*) traumatic, (*b*) respiratory. Card Specimens:—Mr. D'Arcy Power (for Mr. G. N. Stephen): (1) Specimen of Lepra Mutilans; (2) Calculus encysted in a Child's Bladder.—Dr. E. C. Perry: Secondary Sarcoma of the Small Intestine.

Wednesday, November 2.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.
ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.
LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 5 P.M., Dr. Sidney Martin: Cases of Apical and Basal Systolic Murmurs.—Royal London Ophthalmic Hospital: 8 P.M., Mr. J. B. Lawford: Intra-ocular Tumours.
THROAT HOSPITAL (Golden-sq.).—5 P.M. Mr. F. G. Harvey: Chronic Rhinitis.
OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown by Dr. Cullingworth, Dr. Galabin, Dr. Horrocks and others. Adjourned Debate on Dr. Cullingworth's paper on "The Value of Abdominal Section in certain cases of Pelvic Peritonitis."—Dr. F. J. McCann and Dr. W. A. Turner: On the occurrence of Sugar in the Urine during the Puerperal State.

Thursday, November 3.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.
LONDON POST-GRADUATE COURSE.—Hospital for Sick Children, Great Ormond-st.: 4 P.M., Mr. W. Arbuthnot Lane: The Treatment of Chronic Purulent Otitis and its Complications.—National Hospital for the Paralysed and Epileptic: 2 P.M., Dr. Buzzard: Cases in the Hospital.—London Throat Hospital, Gt. Portland-st.: 8 P.M., Mr. C. G. Wilkin: Nasal Polypi.—Central London Sick Asylum, Cleveland-st., W.: 5.30 P.M., Mr. Jonathan Hutchinson: Surgical Cases in the Wards.
HARVEIAN SOCIETY.—8.30 P.M. Dr. Stephen Mackenzie: Dermatitis Herpetiformis.—Dr. Rayner Batten will exhibit and explain a Clinical Pulse Manometer.

Friday, November 4.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 4 P.M., Dr. Sidney Martin: Cases of Mitral Regurgitation.—Bacteriological Laboratory, King's College: 11 A.M. to 1 P.M., Prof. Crookshank: Tuberculosis (Examination of Sputum).
WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital).—8.30 P.M. Specimens &c. at 8 P.M. Mr. R. F. Benham: Large Ovarian Cyst with Adherent Vermiform Appendix.—Dr. J. Crombie: Specimen and Notes of a case of Ulcerative Endocarditis.—Dr. Thudichum: The Origin and Treatment of Gall-stones.—Dr. Henry Sutherland: The Prevention of Suicide in the Insane.

Saturday, November 5.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.
LONDON POST-GRADUATE COURSE.—Bethlem Hospital: 11 A.M., Dr. Theo. Hyslop: Climacteric and Senile Insanity.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 27th, 1892.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuo	Maximum Temp. Shade.	Min. Temp.	Rainfall.	Remarks at 8.30 A.M.
Oct. 21	29·72	S.W.	45	44	75	51	40	..	Overcast
,, 22	29·59	N.W.	42	39	77	48	39	·02	Cloudy
,, 23	29·60	N.W.	38	36	83	53	35	..	Bright
,, 24	29·78	N.W.	35	34	80	50	33	..	Hazy
,, 25	29·70	E.	40	39	50	45	35	..	Raining
,, 26	30·00	N.E.	36	35	65	48	34	·02	Foggy
,, 27	29·65	S.W.	41	39	54	50	35	·04	Overcast

Notes, Short Comments & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

A PATHOLOGICAL BANQUET.

AT Rome a congratulatory symposium was given to Signor Adolfo Rossi, correspondent of the *Tribuna*, on his safe return from Hamburg, whither he had been sent to report on the outbreak of cholera. The *menu* was intended to give the guests—some fifty in number—a notion of the dangers Signor Rossi had encountered in the discharge of his commission. Here it is:—

"Recipe—Bacilli virgola al consommé—Pesci dell' Elba in salsa inquinata—Filetto alla 'Stanhope'—Colture di fagiolini—Polli arrosto uso Koch—Gelato algido—Dessert, frutta e disinfezioni a piacere—Iniezioni epidermiche di Chianti—Cantanoclismi di Champagne."

(R Bacilli-virgulæ al consommé—Elbe fish with river sauce—Filet à la "Stanhope"—"Cultures" of *haricots verts*—Roast chickens à la Koch—Ice *frappé*—Dessert: fruits and disinfectionery *ad libitum*—Subcutaneous injections of "Chianti"—Champagne imbibed à la Cantani.) "In spite of its alarming bill-of-fare, the banquet received ample justice," says the *Tribuna*, which journal seems to think such pleasantries a not ineffectual way of laughing down the tendency to panic which such epidemics evoke among Italians.

M.R.C.S. (Bournemouth) should apply at the offices of the company.

Mr. Hugh Lane (Bath).—The paper is receiving attention.

"AN IRREGULAR TAX ON MEDICAL PRACTITIONERS."

To the Editors of THE LANCET.

SIRS,—Medical men who complain that the coroners' officers expect the odd shilling of their fee should request the coroners of their districts to pay them by cheque, which is always the method of payment here.

I am, Sirs, yours truly,

Plymouth, Oct. 10th, 1892. J. ELLIOT SQUARE.

ARE MEDICAL MEN BOUND TO GIVE DEATH CERTIFICATES?

Mr. Laffan.—Registered medical practitioners are certainly bound to give death certificates in cases which they have attended, as Mr. Laffan will see if he reads the 20th Section of the 37 and 38 Vict., cap. 88, passed in 1874, an extract from which is given in the death certificate book supplied gratuitously by the Registrar-General. By Section 39 penalties are imposed for not giving any certificate required by the Act, the penalty not to exceed forty shillings. Clause 3 of Section 20 provides that when an inquest is held a medical certificate need not be given.

Dr. Forbes Ross.—Our correspondent is inconsistent surely in some of his statements. Thus whilst he denies the presence of potassium he admits the presence of albuminoids, which, he says, "must of necessity contain potassium salts." The phosphates were found in the preparation after incineration, as is distinctly stated. The test for potassium was not that which our correspondent mentions, but one upon which the formation of crystalline tartrate depends when tartaric acid is added to the solution. The fact that the preparation "digests" milk is no proof that it digests itself. We thank our correspondent for his letter, and are glad that he entirely agrees with our remarks respecting the fitness of the article for diabetic patients.

"MIDWIVES' REGISTRATION BILL."

To the Editors of THE LANCET.

SIRS,—If every member of the profession would place on record but one of the instances of flagrant ignorance on the part of midwives which are constantly coming under our notice a mass of evidence would soon be accumulated which would perchance cause those enthusiasts for "cheap doctoring" who are proposing to register these unskilled persons to pause. The following is a case in point.

Some time ago I was attending the worst case of erysipelas I ever saw either in hospital or private practice. A midwife who is reputed to do the most extensive practice of any woman in the town was a neighbour of my patient. At my second or third visit I found this midwife in the sick room. As soon as I heard who she was I told her that the case before her was of a very infectious nature, especially as regards puerperal patients, and that if any of her patients became infected by her the result would more than likely be fatal. This produced no effect. She was very pressing to be allowed to hold the patient's limb while I dressed it, and it was only my declaration that I would at once leave the house if she laid her hands on the bed that kept her off. Notwithstanding this, she came on several subsequent occasions into the room, even when I was there. That she would have been utterly incompetent to deal with, or even to recognise, any effects of septic infection which her patients might have exhibited was proved by a more recent experience. I was called in to see a patient whom she had attended in her confinement when the child was a week old. The patient had felt herself ill for some days, but the midwife declared that she was going on satisfactorily. When I saw her her temperature was 101° F. There was an obvious mass of exquisitely tender pelvic cellulitis reaching from the uterus to the brim of the true pelvis on one side, and the patient experienced almost agonising pain when fæcal matters passed through the rectum, showing that the cellulitis extended far both deeply and backwards. The midwife was unable even to realise the necessity for obtaining more skilled assistance. If the order for decorating with diplomas the midwives in practice at the present time had gone forth this woman would certainly be as much entitled as anyone to be registered, and as—unfit.

I am, Sirs, yours faithfully,

Oct. 17th, 1892. A SURGEON.

PECULIAR SYMPTOMS OF POISONING BY SANTONIN.

To the Editors of THE LANCET.

SIRS,—The following case may be of interest to your readers (I have never seen or heard of a similar one). I found my eldest son, aged nine years, to be suffering from ascarides on the 9th of this month. In the evening I gave him an enema of quassia, which relieved the irritation until the 12th. As it returned I gave him, on the morning of the 13th, at 7.30, nearly five grains of santonin in milk. At 8.15 he had his breakfast of oatmeal porridge and would have gone to school, but I thought he would be better at home. About 9.15 I asked him to do something for me, to which he replied, "Yes, father." He did not do it, and after a minute I asked him if he did not hear me, to which he replied, "No." I noticed he looked pale, so went to him and carried him on to a couch. He was no sooner laid down than he turned a nasty bluish-green colour, the lips became blanched, limbs convulsed, teeth clenched, eyes wide open, pupils dilated, pulse absent at wrist, and he was bathed in a cold, clammy perspiration and unconscious. I forced open his teeth and gave him some brandy-and-water and went off at once for my nearest colleague. In about ten minutes the twitchings became less and the pulse began to return at the wrist. When my colleague came he was improving, but remained unconscious until 10.30, when he spoke a few words and then fell into a sleep. He was not himself for the rest of the day, but now seems quite well. If any of your readers have seen any such experience in similar cases I should be glad to hear of them. I must confess I thought my child was dying. I did not think the dose excessive. I am, Sirs, yours truly,

Oct. 17th, 1892. M.R.C.S.

WINTER QUARTERS.

R. J. S. writes:—"Your leading article (Oct. 8th) on 'The Departure for Winter Quarters' will be read with much interest and profit. I beg leave to suggest, however, that those who have to winter abroad would find their requirements exactly suited during October, and even in the last week or two, at Pau. Pau has much to recommend it. It is undoubtedly the best-drained town in the south of France, and the cholera has never been known to visit it. Its large English-speaking colony makes it seem almost like home to the English. It has a pure and abundant water-supply. Its climate is, owing to its altitude (between 600 and 700 feet) peculiarly dry and at the same time soft, balmy and invigorating. It is on the road to the Riviera by the Midi Railroad viâ Toulouse. The weather for the last three weeks has been almost perfect—genial, warm and agreeable, with just enough rain and storm to give pleasant variety. If the weather is bad at Pau it is sure to be worse elsewhere in the north." We allow our correspondent's statements to speak for themselves, but we must point out that in several points he is in error. Pau does not possess a dry climate. The rainfall is forty-three inches, and rain falls on 119 days in the year (cf. Nice, with twenty-five inches of rain and sixty days on which rain falls). Nor can the climate of Pau be correctly described as "invigorating." In fact, authorities are pretty well agreed that it is remarkable rather for its sedative quality—a view with which our own personal experience entirely accords. Pau has rather receded in favour of late years; but its mild, soothing and rather moist climate suits some varieties of pulmonary and neurotic invalids very well, and we think our correspondent is probably right in maintaining that autumn and early winter are its best season. It is only by a considerable latitude of expression that Pau can be described as "on the road to the Riviera."

Curio.—Our correspondent should take the advice of a solicitor. It is impossible to give an opinion on a document which is not before us and the effect of which may be modified or governed by circumstances of which we are unaware.

EFFICIENT VACCINATION.

To the Editors of THE LANCET.

SIRS,—One of the causes of the disrepute into which vaccination has fallen is, as one of your correspondents lately pointed out, the inefficient way in which it is frequently performed. I hold the office of public vaccinator for a small urban district, and on the occasion of my last series of visits to one of the out-stations only one baby was brought to be vaccinated, instead of the usual nine or ten. On my inquiring the reason the mother told me that Dr. —— (naming an unqualified assistant) was vaccinating nearly all the babies at a small fee, and mothers would not bring their babies to have "four spots" at the station when they could have one, or at most two, small ones put on at home. No doubt the assistant takes the papers home to be signed, but how far the "one or two small spots" act as a protection is surely a matter of doubt. I am, Sirs, yours faithfully,

October, 1892. PUBLIC VACCINATOR.

A VERY OBJECTIONABLE COMBINATION OF MEDICAL ADVERTISIN AND PHILANTHROPY AT TENTERDEN.

THE following advertisement is from the *Kentish Express and Ashford News* of Oct. 8th. We need not say more of it than we have implied in the heading.

"FREDERICK FITZHERBERT JAY, M.D., late of Leamington, who has commenced practice at Tenterden as a general practitioner, will, upon receiving a recommendation from a lady or gentleman resident in Tenterden or the neighbourhood, give advice gratis to any poor person every Saturday, between the hours of three and five in the afternoon. Apply at private door (Mr. Freeman's), West View House."

STATUES OF EMINENT MEDICAL MEN.

To the Editors of THE LANCET.

SIRS,—Your Paris Correspondent, in calling attention to the statues of Broca and Ricord, mentions Harvey's statue at Folkestone as the only statue to distinguished English medical men which he can remember. There is an excellent statue at the Fountains in Kensington-gardens of Jenner, which was, I believe, first erected in Trafalgar-square in front of the Royal College of Physicians, but afterwards removed to its present site in consequence of the agitation in Parliament against vaccination. I am, Sirs, your obedient servant,

Oct. 22nd, 1892. CHAS. ROBERTS.

THE HISTORY OF QUACKS AND QUACKERY.

To the Editors of THE LANCET.

SIRS,—Would any of your readers kindly give me references to works or notices respecting quacks and their doings? I have promised to give a lecture on the subject, and shall feel thankful for any information that may prove of service in its preparation.—I am, Sirs, yours truly,

October, 1892. A.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Communications, Letters, &c., have been received from—

A.—Dr. Clifford Allbutt, Cambridge; Dr. Addison, Colchester; Dr. J. E. Allen, Todmorden; Dr. Abercrombie, Paisley; Messrs. Allen and Hanburys, London; A. A. B.; Apothecaries' Hall, London.

B.—Sir James Crichton Brown, London; Dr. A. G. Blomfield, Exeter; Dr. Adolph Bronner, Bradford; Dr. J. B. Bull, London; Mr. Bigg, London; Mr. Butler, Retford; Mr. Browning, Sheffield; Mr. Botwood, Ipswich; Messrs. Brady and Martin, Newcastle-on-Tyne; Mr. W. Braine; Mr. F. G. Burge, Shanghai; Mr. A. E. Barker, London; Mr. C. F. Beadles, Colney Hatch.

C.—Dr. John Curnow, London; Dr. W. H. Cheetham, Leeds; Mr. Cadogan-Masterman, Stourport; Mr. A. Carter, London; Mr. W. T. Cocking, London; Mr. Coates, Brighton; Messrs. Condy and Mitchell, London; Messrs. Clarke, Son and Platt, London; Mr. J. Brendon Curgenven, Teddington; City Hospital for Infectious Diseases, Newcastle-on-Tyne; Chelsea Hospital for Women; Curio; Cato, London.

D.—Dr. Clement Dukes, Rugby; Dr. Andrew Davidson, Lasswade; Dr. Wm. Donovan, Birmingham; Mrs. Davies, Cambridge; Mr. Douglas, Matlock; Mr. Davis, Sierra Leone; Mr. A. Duke, Cheltenham; The Dean, St George's Hospital; D. P. H., Cambridge.

E.—Mr. G. Y. Eales, London; Mr. C. H. Eyles, British Honduras.

F.—Dr. W. Fowler, Echuca, Victoria; Mr. Hugh Fitzpatrick, Birmingham; F. H. S.; Fairplay.

G.—Dr. Samuel Gee; Mrs. Gann, Hayling Island; R. Gopalras, Somali Coast; General Hospital, Birmingham.

H.—Dr. R. M. Horne, Glasgow; Dr. Edwin Hegan, Southampton; Mr. Heywood, Manchester; Mr. Hislop, Tavistock; Hackney Furnishing Co.

I.—I.I.D. Co., Limited.

J.—Sir George Johnson, London; Dr. J. Oliver, London; Messrs. Johnson, Son and Ellis, London; Justitia.

K.—Dr. Knott, Middlesbrough; Surgeon-Major George Kellie, Deccan; Messrs. Kilner Bros., London.

L.—Mr. Hugh Lane, Bath; Dr. E. Little, Wimbledon; Messrs. Lee and Nightingale, Liverpool; Mr. Little, London; Mr. H Newman Lawrence, London; Mr. Lord, London; Messrs. Loveitt and Co., Coventry; L.R.C.P.

M.—Dr. MacLaren, London; Mr. C. Mansell Moullin, London; Dr. J. A. Mac Munn, Alderney; Mr. May, London; Mr. Miller, Kirkcaldy; Rev. Mr. Mearns, London; Mr. J. Murray, London; Mr. Martindale, London; Mr. W. A. Meredith, London; Mr. H. Martin; Mr. Vernon Mossman, Salford; Maltine Manufacturing Co., Bloomsbury; Meaby's Triticumina Co., London; Medicus, London; M.D. Berne, Durham; M.R.C.S., Bournemouth.

O.—Messrs. Oliver and Boyd, Edinburgh.

P.—Dr. Priestley, Leicester; Mr. F. G. Penrose; "Power and Matter," Mr. Palmer, East Dulwich; Mr. Pentland, Edinburgh; Mr. Pinchard, Taunton; Mr. Paynter, London.

R.—Dr. R. R. Rentoul, Liverpool; Dr. Russell, Glasgow; Mr. Chas. Roberts, London; Mr. C. J. Rawlings, London; Dr. Ridge, Enfield; Messrs. Robinson and Co., Norwich; R. K., London.

S.—Dr. Sturges, London; Canon Scott, Leeds; Dr. F. J. Shepherd, Montreal; Mr. Stone, Venice; Miss F. Saunders, London; Mr. T. Smith, London; Messrs. G. Street and Co., Cornhill; Mr. Steadman, Borough; Messrs. Shepherd, Clark and Co., New York; Messrs. Slinger, York; Statim, Sheffield.

T.—Mr. J. Tweedy, London; Miss Taylor, Brighton.

U.—Mr. Unsworth, Liverpool.

V.—Mr. Vickers, London.

W.—Dr. Tucker Wise, Davos Platz, Switzerland; Messrs. Willing; Dr. Alexander Weir, London; Mr. Wand, Leicester; Mr. Wolff, London; Mr. Warrilow, Chelsea; Mr. Williams, Battersea-park; Dr. Wilhelm, Cape Colony; Mr. Williams, Ang'esey; Mr. Wilmer, Oxford.

X.—X. Y., London.

Z.—Z., London.

Letters, each with enclosure, are also acknowledged from—

A.—A., Lewisham; A. B., London; A. G., London.

B.—Mr. Bourke, Hastings; Mr. Bonar, Cornwall; Mr. Breech, Newbury; Messrs. Blondeau and Co., London; Mr. Borthwick, Glasgow; B., Finsbury-park; B., London; Bradford Infirmary.

C.—Dr. Clegg, Windermere; Mr. Chapman, Child's Hill; C. B., London; Class Rooms, Edinburgh; Cairo, Newcastle-on-Tyne.

D.—Messrs. Duncan, Flockhart and Co., Edinburgh; Dextra, London.

E.—Mr. Edwards, Birmingham; E., London.

F.—Mr. Flood, Leeds; Mr. Fiske, Aylesford; Miss Field, Guy's Hospital; Mr. Flynn, co Dublin; F. P., London.

G.—Mr. Gibson, Worcester; Mr. Gilyard, Bradford; Gamma, London; G. H. H., London; Guy's, London.

H.—Mr. Hulme, Leek; Mr. Howse, London; Dr. Hayward, Birkenhead; Dr. Holmes, Southam; Mr. Harper, Ripley; Hygiene, Sheffield; Dr. H., Edinburgh.

—Dr. Joll, Woolton; Mr. Johnson, Leicester; J. T. B., Morecambe; Jove, London; Johannis Co., London.

L.—M. Lorette, Paris; Messrs. Lee and Martin, Birmingham; Dr. Langdon, Preston; Mr. Lownds, Kirkburton; Lex, London

M.—Dr. McKay, Rosshire; Manchester, London; M., London; M.A., London; M. T., London; M. C. M., London; Medicus, Dover.

O.—Mr. O'Shaughnessy, Cardiff; Mr. Oliver, Newcastle-on-Tyne; Messrs. Oliver and Boyd, Edinburgh.

P.—Mr. Peacock, Thornton Heath; Mr. Price, Longton; Mr. Pinder, Broughton; Princeps, London; Practitioner, London; Principal, London.

R.—Mr. Rhodes, Huddersfield; Mr. Robinson, Barnard Castle; Mr. Richards, Glamorgan.

S.—Mr. Saunders, Eton; Messrs. Schacht and Co., London; Mr. Scriven, London; Mr. Suvart, Victoria; Messrs. Simmons and Co., London; Mr. Saunders, Manchester; Mr. Smith, Fleet-street; Simpson, Bristol; Scotus, London; Scalpel, London; Sheffield Public Hospital; Statim, Sheffield.

T.—Mr. Turney, London; Mr. Thin, Edinburgh; Mr. Tyte, Minchinhampton; Mr. Taylor, Ruthin; Theta, London; The Abbey, Derbyshire; T. R. M., London.

V.—Dr. Vintras, London; Veritas, London.

W.—Rev. Mr. Watson, Farnham; Mr. White, Twyford; Dr. Waring, Brighton; Mrs. Wilson, Edinburgh; W. C., Ealing.

X.—X. X., London.

Z.—Zygoma, London.

NEWSPAPERS.—*Surrey Advertiser, West Middlesex Standard, City Press, Weekly Free Press and Aberdeen Journal, Local Government Chronicle, Reading Mercury, Windsor and Eton Gazette, Hertfordshire Mercury, Our Dumb Animals (Boston, U.S.A.), Mining Journal, Leeds Mercury, Scotsman, Bristol Mercury, Liverpool Daily Post, Food, Drugs, and Drink Journal, Yorkshire Post, Windsor and Eton Express, Cleckheaton Guardian, Guy's Hospital Gazette, West Middlesex Advertiser, Elgin Courant, Law Journal, Lincolnshire Chronicle, Electrician, Midland Counties Express, Derbyshire Times, Dartmouth Chronicle, Canterbury Journal, Waterford Mirror, Worcestershire Chronicle, Birmingham Gazette, Sheffield Independent, Montreal Gazette, Whitehall Review, Court Circular, Sunday Times. Le Temps (Paris), Builder, Observer, European Mail, Dundee Courier, Woodford Times, Manchester Guardian, Architect, Bolton Evening News, Carnarvon Herald, Evening News and Post, Kidderminster Shuttle, &c.*, have been received.

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